Post-Graduate Lecture

ON THE

SURGICAL TREATMENT OF DEFORMITIES DUE TO PARALYSIS.[1]

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GENTLEMEN,—At this hospital, especially devoted to the treatment of patients suffering from epilepsy and paralysis, unusual opportunities are afforded for studying these affections in all their varieties. These cases are generally presented to you in their medical aspect, and the great advances both in diagnosis and treatment made by my distinguished medical colleagues have been well recognised by the profession. But there is also a surgical aspect presented by many of these cases, some of which can be relieved by such operations as trephining the skull and removing any tumour or morbid growth from the substance of the brain which had been diagnosed, and also the operation of trephining the spine, either for the relief from pressure produced by fracture, causing paralysis, or the removal of any morbid growth. These large operations, performed with strict attention to the rules of anti-septic surgery, have been the special study of my colleague, Mr. Victor Horsley, and the results obtained stand out prominently amongst the advances made in modern surgery. But besides these large operations, there yet remain a considerable number of cases of paralysis in which we have to deal surgically with the late effects—more especially with contracted joints and distortion of limbs,—and the treatment of these cases falls more or less under the observation of those who have gained a knowledge of orthopædic surgery. It is this class to which I desire to direct your attention to-day, as the surgical treatment of these cases presents some points of special interest. As a general law, all paralytic affections of the upper and lower extremities, whether infantile or adult, have a tendency to pass into a state of contraction, with some malposition or deformity at the joint or joints involved; whether the hip, knee, ankle, or transverse tarsal joint in the lower extremity, or shoulder, elbow, or wrist in the upper extremity. The muscular affection of the eyes, in cases of paralysis producing strabismus, need hardly be alluded to by me, as they fall especially under the observation of the ophthalmic surgeon attached to the hospital. The contractions met with in the upper and lower extremities naturally arise as the result of the loss of the balance of muscular power, as we know that in many of these affections, especially in the infantile class, either individual muscles or groups of muscles are chiefly affected. We also know that the recovery of muscular power proceeds at very unequal rates in different muscles, or groups of muscles; for example, the deltoid muscle is always very slow to recover, and often fails to do so, leaving a permanent inability to uplift the arm or raise the elbow. The rectus muscle of the thigh is also a very unfavourable one for recovery, leaving a permanent inability to extend the leg upon the thigh and rendering necessary a mechanical support to compensate for this inability. The muscles surrounding the hip-joint generally make a very favourable recovery, and those most useful muscles in progression, the psoas and iliacus, are seldom lost. In the leg, the muscles of the calf—the gastrocnemius and soleus—are always very slow to recover, and frequently fail to do so, thus causing a very troublesome and incurable deformity of the foot—talipes calcaneus. In the leg it sometimes happens that all the muscles make a fair recovery, except the tibialis anticus, which alone remains paralysed, giving rise to an everted condition of the foot—talipes valgus. As a general result, it seems that contraction at some of the joints involved almost invariably occurs; we are therefore obliged to admit that whilst nature is a very good physician and does her best to aid in the recovery of muscular power, she is unmistakably a bad surgeon, and does her worst in the production of various contractions and deformities. If this law were more generally known many contractions and deformities at the joints might be avoided. Cases are frequently brought to me in which the patients are making an excellent recovery from some paralytic affection, but little attention has been paid to the early stage of contraction which quickly attracts my attention. This most frequently occurs at the ankle-joint from contraction of the Achilles tendon, as we generally describe it, although we know the structural changes really occur in the muscles of the calf. The effect of this contraction is to limit the power of flexing the foot at the ankle-joint, and if allowed to progress, the heel will become elevated and a condition of talipes equinus produced, with all its inconvenience in walking, if one foot only is affected.

If both feet should be affected, then the patient will be unable to stand until after tenotomy has been performed. If the contraction is detected in the early stage, I generally find it can be effectually overcome by a well-regulated course of massage, accompanied with passive movements; these movements, however, require more special attention than is generally given to them. The reason of this contraction being overlooked in the early stage is that there is nothing particular to direct attention to it, and also that the method of testing the flexion power of the foot at the ankle-joint is perhaps hardly studied with sufficient care. This should be done in the following manner. First, the leg must be placed in a fully extended position, and the knee-joint lightly held either by the patient or surgeon to prevent any flexion at this joint, as I need hardly say this would destroy the test by relaxing the heads of the gastrocnemius muscle attached to the condyles of the femur. I prefer the patient to be sitting on a chair, and resting the foot on another chair placed opposite, and of the same height. Then the surgeon, lightly grasping the knee with the left hand so as to keep the leg fully extended, may with his right hand try to flex the foot at the ankle-joint. Instead of using the hand, however, it is a good plan to place a book against the sole of the foot, and by a little pressure try to flex the foot. In slight cases it will be found that the foot can be flexed barely up to a right angle with the leg, and then the Achilles tendon becomes very tense. This is commonly spoken of as a *right-angled contraction of the Achilles tendon*, and gives rise to more inconvenience in walking, and in active exercise, than might be supposed, but it can generally be overcome by massage and passive movement. In a more severe case it will be found that the foot cannot be flexed up to, or nearly so far as, the right angle—probably 10° or more short of the right angle,—the foot forming an obtuse angle with the leg. In such a case I should at once advise tenotomy, as there is no probability of overcoming this degree of contraction by massage and passive movements. The only alternative is the tedious and uncertain process of gradual mechanical extension, carried out by means of a Scarpa's shoe, with rack-and-pinion movement at the ankle-joint, to be worn night and day for many months—at least six,—the patient using crutches, and not allowed to touch the ground with this foot during the whole time. The treatment by tenotomy would average about six weeks, and from its certainty is in every way to be preferred. Naturally the foot should be capable of being flexed upon the leg from the ankle-joint to 18° over the right angle, this degree of flexion being necessary for good walking purposes, and in young people this will, as a rule, be found to exist. In adults also it generally exists, especially in ladies. Less than 15° of flexion beyond the right angle will not suffice for good walking purposes in the adult, and with a limited degree of flexion movement various troubles arise, but these are not connected with our present subject.

For the purpose of measuring accurately the angle of flexion, I use an instrument well known as the "engineer's rule," with a water-level on the lever held horizontally, and the degrees through half a circle marked off in 5° and 10°. For rough use I employ a measure fixed at 18°, which at once shows the patient how much short of the natural angle of flexion the foot may be. The measure should be taken along the outer border of the foot, as this is a tolerably straight line, whilst the arched border on the inner side renders the measure less apparent.

The contractions resulting from paralysis we are called upon to treat surgically most frequently occur in the lower

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extremities, and the great majority result from infantile paralysis, affecting either one or both legs—i.e., in the form of hemiplegia or paraplegia.

In infantile paralysis we have two distinct classes—viz., those characterised by rigidity of the muscles, and those in which the muscles are flaccid. These two classes differ widely in their pathology and clinical history, and equally therefore in their prognosis and treatment. In their medical aspect they have been fully described by my able colleague, Dr. Gowers, in the lectures delivered by him in this hospital. A few surgical points in reference to these, however, I shall here allude to. When one leg only is affected, and the foot contracted, although the awkwardness and inconvenience in walking may be considerable, I have known surgical interference to be strongly opposed on the ground that the contracted foot is a firmer support and more useful, the contraction possibly compensating for some degree of shortening, than it would be after tenotomy, and the use of a raised boot. But I believe it to be better for the patient not to be allowed to walk on the toes with a raised heel, and to have the sole of the foot brought firmly in contact with the ground by tenotomy, even if a boot raised half an inch should be required. When both legs are affected and the feet contracted the patient is totally unable either to stand or walk, and no objection is at the present time ever raised to the combination of surgical and mechanical treatment by which these patients are generally enabled to walk fairly well, although in bygone times I have known the strongest opposition to any surgical treatment raised in these cases, on the ground of the paralytic origin of the affection, and the belief that dividing tendons must still further weaken the limbs. The fact that contracted muscles are strengthened by division of their tendons was never recognised by the older surgeons, and indeed is not universally recognised at the present time; but the explanation will be obvious when I mention that by the increased length of the tendon gained by the insertion of new tendon varying from half an inch to an inch and a half, as it may be required between the divided extremities of the old tendon, movement at the joint involved—say, the ankle-joint—is at once permitted; whilst in the contracted condition of the muscles no movement at the joint could take place. The effect of the joint movement is to increase muscular development, and except in extreme cases of complete degeneration of the muscular fibres, the muscular structure always perceptibly increases in bulk. A good illustration of this fact is seen by comparing the leg of an adult born club-footed and never operated upon with the leg of an adult born club-footed who had been operated upon and well cured in childhood.

I now exhibit to you plaster-of-Paris casts of two such cases, and it will be seen that the calves in the case which had been operated upon and cured, measure two inches more in circumference than the calf of the club-footed adult who had not been operated upon. These cases are given in detail in my work on Club-foot, second edition.

CASE 13.—*Severe case of congenital talipes varus of the right foot in the adult, which had not been operated on, or otherwise treated.*—Mr. B——, aged twenty-six, a tall and very muscular man. The leg on the affected side, below knee, appeared to be very small—a withered limb, as it might be described, and the calf measured only 11½ in. in circumference, and was much higher than natural. I operated upon this gentleman on May 29th, 1854, and the deformity was cured in a little more than a year, but the movement at the ankle-joint remained very limited. The last report published was on May 29th, 1856, when improvement in every respect was maintained, and it is also stated that the calf had increased ¾ in. in circumference.

CASE 14. *Severe case of relapsed congenital varus of both feet after two operations.*—Master H. A——, aged ten years. I operated on this patient on Aug. 12th, 1852, but the measurement of the calves at that time is not stated. On Jan. 15th, 1855, nearly two years and a half after the operation, the calves are stated to have measured 10½ in. in circumference, no doubt a considerable increase since the operation. On June 6th, 1860, I had the opportunity of examining this patient again. He was then over eighteen years of age. The feet remained perfect in form, with free motion at the ankle-joints, and the calves in circumference measured 13½ in.—i.e., 2 in. more than the calf of the gentleman aged twenty-six years, who had not been operated upon. From this illustration, and many more might be given, there can be no doubt that contracted muscles are strengthened and the muscular development increased by division of their tendons. We are not, therefore, to be deterred from dividing tendons, even in paralytic deformities, and we know that some of the most brilliant results have been obtained in cases of paraplegia, either infantile or adult, in which the patients have been unable to stand or walk for many years. In cases of severe and long-standing paralysis, however, extra care is required to obtain a strong union of the divided tendon, and sufficient without excessive elongation.

All the contractions which occur during the progress of paralytic affections towards recovery are to be treated surgically on the same general principles—viz.: (1) By the subcutaneous division of all the contracted tendons; (2) by gradual mechanical extension, in order to ensure the formation of a sufficient length of new tendon between the divided extremities of the old tendon, and at the same time guard against excessive elongation; and also to stretch the deep ligaments and other structures that cannot be divided; (3) by physiological means to promote the restoration of muscular power—viz., massage and passive movements, together with galvanism to special muscles when required; (4) by mechanical supports adapted to the requirements of the case, so that by compensating for the paralysis, more or less complete of particular muscles, or groups of muscles, the patient may be enabled to walk, a great gain to those who have been allowed to reach adult life without having walked from childhood. In reference to these different principles I have but few remarks to make in their application to the particular class of cases we are now considering.

With regard to tenotomy, in dividing the Achilles tendon we always enter the point of the knife obliquely downwards near to the margin of the tendon, and divide from within outwards towards the skin; but in one class of paralytic deformities—viz., those with rigid muscles ("spasmodic rigidity" as it is called)—there is a special danger in this operation of a large open wound being made, instead of a subcutaneous puncture. The assistant who has charge of the foot should be aware that in these cases the anterior muscles are sometimes thrown into violent spasmodic contraction as soon as the tendon is divided, and if he does not control this violent flexion of the foot, the tenotomy knife must pass through and completely divide the skin, especially if the Achilles tendon should be prominent and thinly covered, as it generally is in these cases. Before the tendon is completely divided the assistant should begin to relax the tension, and instantaneously, as the division is completed, extend the foot and approximate the divided extremities of the tendon. In this position the foot should then be bandaged and a flexible metal splint applied. This accident happened once in my practice, when dividing the Achilles tendon in a young lady with spastic contraction, although I had especially cautioned the surgeon assisting me as to its liability in this case. Fortunately, however, the case did well. In another case a colleague of mine had the greatest difficulty in preventing it, so strong was the spasmodic action of the anterior muscles. The liability to this accident should be borne in mind. The tendo Achillis is recommended by some surgeons to be divided by passing the knife flatways between the tendon and skin, and then cutting through the tendon from behind forwards. The Edinburgh school generally adopt this method, and it has been recommended by Liston, Syme, and Sir William Fergusson; but in this method of operating the posterior tibial artery may be punctured by the point of the knife dipping too suddenly and too deeply after the tendon has given way, an accident I once saw occur in a boy twelve years of age, but the hæmorrhage was controlled by pressure, and the case did well.

After-treatment.—I need hardly remind you that within the last few months there has been a good deal of discussion as to the *rate of extension* after tenotomy—i.e., whether it should be *immediate*, *rapid*, or *gradual*. In the particular class of cases we are now speaking of—i.e., paralytic deformities—I would strongly advise you against immediate extension, or what is described as immediate reduction of the deformity. No doubt some successful cases have occurred, but I have seen many unsuccessful—i.e., cases of elongated and very feeble union, practically amounting almost to non-union, and the patients damaged for life, as excessive elongation produces the incurable condition of talipes calcaneus.

The object of gradual extension is not to elongate or stretch the new material, uniting the divided extremities of

the tendon, as is generally supposed; but to regulate the length of new material, or, as it may be called, the new tendon, whilst we have the opportunity of so doing, and the rate at which this is to be accomplished must have reference to the activity of the reparative process, and to the length of new tendon required. In the Achilles tendon this can be easily observed, and I always examine it carefully twice a week. In well-nourished infants the full length required in the divided Achilles tendon should, according to my observation, be obtained in a fortnight, if practicable; in a well-nourished leg in an adult it should be obtained in from three to four weeks; but in atrophied paralytic limbs it should not be obtained in less than from four to six weeks. The extension described as rapid—i.e., gaining the length required at intervals of a week—is more rational, the foot being put up either in a plaster-of-Paris bandage or any immovable splint, but I prefer the gradual extension by means of a Scarpa's shoe with rack-and-pinion movements, which can be regulated as required.

In contractions of the knee- and hip-joints the extension can often be made satisfactorily by means of the ordinary weight extension apparatus. With regard to the third principle of treatment—i.e., by physiological means to promote the restoration of muscular power,—there can be no doubt that the improved system of massage, now so ably taught in some schools of instruction, and by professors who have established this system upon a scientific basis, is of the utmost value; and in many cases this may be still further assisted by a well-regulated course of galvanic treatment. In reference to the fourth principle of treatment—viz., the employment of mechanical supports, so constructed as to compensate for the more or less complete paralysis of certain muscles, which in severe cases often remain as a permanent defect, there can be no doubt as to the necessity of employing such mechanical assistance, and the instruments now in use are constructed upon the most scientific principles, with various ingenious contrivances adapted to the special requirements of each case, and a variety of these appliances I now exhibit to you. There can be no doubt that by a combination of these different principles of treatment the results are now obtained in the class of paralytic deformities which were totally unknown to and not within the reach of our predecessors. Before leaving the subject of tenotomy and its results I would refer to one point which has long attracted my attention—viz., the fact that after tenotomy in cases of paralysis in which the feet are always cold and cannot be warmed by artificial means, a very marked increase of temperature rapidly follows the operation of tenotomy, and the feet remain warm.

The mother of a boy, aged twelve, upon whom I operated six weeks ago at 9 A.M.—dividing the Achilles tendon for paralytic contraction of the foot,—told me that she observed an increase of temperature the same evening; and this has been maintained. Only yesterday I operated upon the other foot, which was also paralysed and contracted, and a very marked difference in the temperature of the two feet was observable, the one about to be operated upon having remained cold. It is of common occurrence at the Orthopædic Hospital for the mother of a child which had been recently operated upon for paralytic contraction to draw attention to the fact that the child's foot became and has remained warm since the operation, whilst she had been unable to keep the foot warm by any extra clothing or other means before the operation. As to the explanation of this increase of temperature after tenotomy, it seemed to me that it might be due to a certain amount of muscular action taking place after the tendons of the contracted muscles had been divided. But Dr. Brown-Séquard, to whom I mentioned the occurrence of this event at the time he was connected with this hospital as one of the physicians, said that he believed it to be due to a direct reflex action of the spinal cord, and that a local increase of temperature probably followed all surgical operations, but it would be most observable in cases of paralysis.

In the surgical treatment of contractions occurring in cases of paralysis it is necessary to bear in mind that these are essentially of muscular origin, and are due either to active muscular contraction, or adapted shortening of an atrophic and passive character. There are no adhesions, either intra-capsular or extra-capsular, in paralytic contractions, although the deep ligaments and bands of fascia are subject to adapted structural shortening. If there is any law firmly established by long experience in the surgical treatment of contracted joints in deformities due to paralysis it is, *never attempt to overcome muscular contraction by forcible extension.* By subcutaneous tenotomy we can at once remove all, or nearly all, the muscular contraction without the least possible risk, and gradual mechanical extension will overcome the other obstacles. I wish more especially to draw your attention to this law, as I have frequently seen cases in which serious injury has resulted from some failure to recognise the importance of it, such as fracture of the femur, or separation of the lower epiphysis in a case of knee-joint contraction; laceration of the skin when this is in an atrophic condition, as in the so-called *glossy skin* occasionally met with in cases of paralysis; a liability to dislocation of the hip &c.

In addition to the contractions and deformities chiefly affecting the lower extremities in paralytic cases which we have been considering, there are other deformities affecting the spine and the pelvis, as well as also the occasional displacement from ligamentous relaxation, and in some cases the complete dislocation of the head of the femur on the dorsum ilii. These results occur only in one class of cases—viz., the most severe form of infantile paralysis, in which both legs, both arms, and the muscles of the trunk are affected. The natural recovery in these cases is very slow, partial, and incomplete, the permanent defect remaining through life being considerable, and the complications of severe spinal curvature, pelvic tilting, and partial or complete luxation of the hip-joint seriously interfere with any advantage gained by surgical or mechanical treatment.

Clinical Lecture
ON A
CASE OF CYST OF THE PANCREAS.

Delivered at the London Hospital,

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GENTLEMEN,—I wish to draw your attention to the case of a man now lying in No. 3 operation ward, who is about to leave the hospital convalescent. The case is of interest both in so far as it illustrates the clinical features of a rare and remarkable disease and in so far as it emphasises the value of an exploratory incision in a certain form of abdominal affection. Briefly, it may be said that the man was the subject of an enormous pancreatic cyst, that the disease was not only not diagnosed, but was not even suspected before the operation, and that the patient has made a good recovery. The rarity of the affection may be illustrated by the fact that, so far as I can discover, a record of no similar case is to be found in the surgical registers of the hospital, and, so far as I know, no other operation upon a cyst of the pancreas has been performed in this country.[1]

The patient, a railway foreman, aged forty, was admitted into the hospital on July 11th, 1888.[2] He had been previously under the care of Dr. John Cotman, and had been seen also by my colleague, Dr. Stephen Mackenzie. He was a well-developed, vigorous, and muscular man, leading a healthy and very active life. He was stout, but not coarse, and had always had exceptionally good health. There was nothing worthy of note in either his family or his personal history. Seven or eight months ago he noticed a throbbing sensation in the region of the umbilicus, which was perceptible only when he lay upon the abdomen, which ceased when he altered his position, and which gave him neither trouble nor anxiety. A little later than this he noticed that he became tired sooner than usual, and had now and then a dragging pain which started from the right testicle and spread into the abdomen. He continued with his work until within five weeks of his admission. He then sought Dr. Cotman's advice on account of vague pains about the abdomen. These pains were never severe, were

[1] This statement is modified in the concluding paragraphs of this lecture.
[2] The publication of this lecture has been deferred until the final state of the patient could be reported on.

more or less constant, were located in the region of the umbilicus, and were always worse when he was in the upright position. He had noticed nothing else the matter with his abdomen. Dr. Cotman at once discovered a median swelling in the vicinity of the umbilicus. It appeared to be small, about the size of two large fists, was rounded, and free from pulsation. Its characters could, however, be but imperfectly made out owing to the thickness of the abdominal wall. The patient weighed 15 st., and the measurement of the abdomen at the umbilicus was 42 in. The only symptoms complained of at this time were the feeble pains already alluded to, a sense of fulness after every meal, so that he had to loosen his clothes, a slight feeling of nausea now and then, some lassitude, and considerable depression of spirits. His appetite was good, his bowels regular, there was neither ascites nor jaundice, the urine was normal, and, indeed, the patient exhibited no other morbid signs than those named. He had up to this time not lost weight.

When I saw the patient shortly before his admission the abdomen was of great size. No further symptoms of a pronounced character had, however, developed. The main complaint was of lassitude and debility, of great mental depression, of some abdominal pain about the umbilicus, and, above all, of a great sense of fulness after food. He had lost but little in weight. He had some nausea, but had never vomited. The bowels were regular, and the stools passed were of perfectly normal appearance. There was no jaundice. The urine was acid and clear, and now contained one-twelfth of albumen. Its specific gravity was 1015. Some undue frequency of micturition had been noted during the last few days. There had been neither hiccough nor disturbance of respiration. The tongue was clean. Much flatus was said to have been "passed upwards." The man appeared very weak, was the subject of much depression and varied forebodings, and his movements exhibited the utmost lassitude. The aspect of his face was quite noteworthy. The eyes were a little sunken, and the expression was that of utter and hopeless melancholy. The complexion was of a dirty-brown colour, not unlike fading sunburn. The tint, which was limited to the face and was uniform there, attracted immediate attention. The pupils were equal, were contracted almost to pinholes, but still acted to light. He spoke as a man would speak who is intensely drowsy. As the patient was an active foreman in some large railway works, this mental change was striking. He had taken no narcotic of any kind. His pulse was 78 and of good volume. I ascribed the pigmentation of the face, and possibly the contraction of the pupils, to pressure exercised upon the region of the solar plexus. In the abdomen was a tumour which, although quite median, was a little more prominent on the left than on the right side. Its upper limit was some three inches above the umbilicus, and below it reached to the pubes. It extended so far laterally as to occupy nearly the whole of the front of the abdomen. The area indicated was quite dull on percussion. Both flanks were resonant, as were also both iliac fossæ. There was no evidence of ascites. There was a resonant area between the tumour and the liver. Nothing abnormal could be felt per rectum, nor could the tumour be reached in that direction. To the hand the mass felt perfectly smooth and well rounded; it was firm and elastic, and exhibited no sense of fluctuation; it was quite fixed. Respiratory movements had no effect upon it, and, while it could apparently be moved a very little from side to side, it was quite immovable in the vertical direction. The whole abdominal wall was very tense; the skin was smooth and glistening, and marked by many wide lineæ albicantes. Below the umbilicus were a few distended veins visible beneath the integument. The tumour was the seat of no pain, and rough manipulation elicited no tenderness. The patient was seen by Dr. Stephen Mackenzie. He did not consider the symptoms such as would form the basis for a definite diagnosis. I inclined to the belief that the tumour might be sarcomatous. Its growth had been very rapid. It felt elastic; it did not fluctuate. Although the patient had wasted but little, the alteration in his appearance hardly suggested an innocent growth. The idea of a cyst was never entertained; the mass appeared to be solid and heavy. I pointed out the difficulties of the position to the man, and suggested an exploratory incision. I was so influenced by the impression that the tumour was malignant that I could in no way urge this step. It was rather the outcome of the patient's intense anxiety that "something should be done." This instinct probably saved the man's life.

The operation was performed on July 13th. Many of you will remember the circumstances of it. The abdomen was opened in the median line below the umbilicus. The tumour was at once exposed, and the fact that it was a very greatly distended cyst became directly evident. Its outer surface was perfectly smooth and of a reddish-brown colour. There were no adhesions of any kind. The cyst was quite median in position, and nearly touched the symphysis pubis. It evidently was placed *behind* the peritoneum of the posterior parietes. It was quite fixed. The reflections of the peritoneum from the sides of the tumour on to the kidney and the meso-colon were noted. The growth was in close contact with the spine, and this intimate association was retained as low down as the fourth lumbar vertebra. The small intestines were for the most part below the tumour, and to the left. The omentum and transverse colon were above it. The stomach was also above it, and to the left. The cyst was punctured in the middle line, and a jet of fluid was projected with great violence across the theatre. The tenseness of the cyst was remarkable. The cavity was freely opened, and the margins of the cyst wall were attached by fourteen sutures to the parietal wound. Two sutures were introduced into the latter wound. A piece of drainage-tube one foot in length and with a diameter of one inch was inserted. The interior of the cyst was perfectly smooth. Its wall was about 1½ to 2 lines in thickness. On introducing the hand the cyst was traced up to the region of the pancreas. Its upper boundary was transverse, and it was closely attached to the spine and the aorta. Eighty-five ounces of fluid were collected. Probably about a hundred ounces escaped in all. The fluid was thick, opaque, and of a brownish-red colour. It was alkaline, and was shown to contain many blood-corpuscles, some albumen, but no bile and no urea. About a teacupful of brownish blood-clot was removed from the cyst after the fluid had escaped.

The after-history of the patient calls for little comment. The bowels were opened on the sixth day; the stitches were removed in part on the seventh day and in part on the tenth. A little morphia was given during the first forty-eight hours. No trace of albumen was discovered in the urine after the third day. The discharge was at first very copious, but soon became thin and pale, like mutton broth. It did not "digest" the skin, nor did it, indeed, cause undue irritation of the integument. The most remarkable feature during the period of convalescence was the state of drowsiness into which the patient passed. For nearly fourteen days he remained strangely apathetic, and appeared to be nearly always asleep. His condition resembled that of a man who was under the influence of morphia—a resemblance supported by the abiding contraction of the pupils. The cyst cavity contracted rapidly. It suppurated, and for some weeks the temperature was high. The patient did not leave his bed until nearly six weeks had elapsed, and he is now about to be discharged from the hospital, just two months after the operation. There is merely a sinus, into which a medium-sized drainage-tube is introduced to a depth of four inches. The man may now be said to be well.

Later report.—In another month the sinus had entirely closed, so that three months were occupied in the obliteration of this great cyst. Twelve months after the operation the patient came to the hospital to show himself. He stated that he was now as well as ever, and as well able to do his work. The face was no longer pigmented, and the pupils, although still small, were no longer contracted. The abdominal wall had yielded a little at the site of the wound, and to support it the patient wore an elastic belt. His digestion was perfect and his bowels acted regularly. He had, indeed, no symptoms. No trace of the cyst could be felt. At the present date nearly two years have elapsed since the operation was performed, and as the patient still remains quite well, he may be considered as cured.

With regard to the *general features* of cysts of the pancreas, the most substantial contribution to our knowledge of the subject has been provided by Dr. Senn in his monograph in the *American Journal of the Medical Sciences*, July, 1885, and Jan., 1887. In this very admirable paper examples of eleven cases treated by operation are collected. Since 1887 a large number of cases have been placed on record, and upon a study of these the following general account of the features of the disease may be based.

The trouble would appear to be more frequently met with in men than in women, and to be distinctly an affection of middle life. The average age is about thirty-six. The

youngest patient, so far as the recorded cases at present stand, was sixteen, the oldest seventy-two. In the matter of etiology there is little to be said. In the majority of cases the trouble, as in the present instance, appeared without apparent cause. In a few examples the cyst made its appearance within a comparatively short time of the receipt of an injury. In one case at least the trouble seems to have followed an attack of "acute gastro-enteritis." In the majority of cases the symptoms, apart from the appearance of the growth, have been almost negative. The tumour has usually increased rapidly, and the chief complaints have been of a painful sense of fulness after food, of distension, of digestive disturbances, and possibly of nausea. Eructations are common, and the patients are usually described as languid, feeble, or depressed. Emaciation to any extent is seldom present; vomiting is comparatively rare. In Dr. Bull's case there was hæmorrhage from the stomach and bowel. The pain complained of has usually been slight and of a vague neuralgic character. The appearance of the cyst has been preceded by periodic attacks of pain or by a long-standing sense of discomfort in the epigastrium. The bowels have in most of the examples acted regularly. Diarrhœa is mentioned in many instances, but in no case do fatty stools appear to have been passed. Albumen or sugar in the urine is noted in not a few examples. There is no ascites, and, as a rule, no jaundice. The skin is usually described as dusky, dirty, earthy, unhealthy looking, or yellowish. The tumour is round and tense. It is elastic and may not give a sense of fluctuation. It is of clear outline, often presents aortic impulse, but is usually not movable. Adhesions are quite uncommon. It is situated above the umbilicus in the epigastric region. It may be in close contact with the liver; it may be large enough to fill the whole abdomen. The fluid is usually turbid, brownish, odourless, and of fairly high specific gravity. It is alkaline or neutral in reaction, contains albumen, but neither bile nor urea. It has the power of emulsifying fat and of converting starch into sugar. In many cases it has caused the skin about the wound to be very sore and raw, and it has been described as "digesting the skin." The brownish colour of the fluid is due to an admixture of blood, and in the rarer cases the fluid has exhibited lighter tints, and has been described as yellow, and even as white. It appears to be always turbid. It may possess no digestive properties, just as the fluid in hydronephrosis may possess few, if any, of the specific features of urine.

When Senn's paper was written, in no instance had a correct diagnosis been made before operation. Since that time, however, the nature of the affection has been recognised by many, by Lardy, Subotic, Wölfler, Bull, and others. In not a few cases an exploratory tapping has not enabled the surgeon to make a sure diagnosis. Pancreatic cysts have been mistaken for ovarian tumour, hydatid cyst, malignant growths, lipoma, circumscribed peritonitis, and even aneurysm. Senn's statement, that "a positive diagnosis of a cyst of the pancreas is impossible," must now be modified, and with the knowledge we now possess there is no reason why the condition should not, in all uncomplicated cases, be recognised. The disease, if left to itself, appears to be always fatal, and I believe nothing is known of any mode of spontaneous cure.

In the matter of treatment, I have collected twenty-four examples of cyst of the pancreas treated by operation. They may be thus arranged:—

	No. of cases.	Recoveries.	Deaths.
Incision and drainage	16	15	1
Removal or attempted removal	6	1	5
Simple tapping	2	–	2
	24	16	8

It must be understood that in those who recovered a fistula was left which was in some cases many months in closing. The possibility of a permanent fistula may be disregarded. Among the cases of recovery is Dr. Bull's case. The patient survived the operation, and may be said to have entirely recovered from it when he died of diabetes. The figures given above show very conclusively that the line of treatment should be by incision and drainage, and that no attempt should be made to remove the cyst. The treatment by repeated tapping has nothing to recommend it, and an exploratory tapping is also to be condemned.

Literature.—The following are the papers upon which the above observations are founded:—Salzer: *Zeitschrift für Heilkunde*, Bd. vii. Kootz: "Inaug. Diss.," Marburg, 1886. Küster: *Berliner Klin. Wochens.*, 1887, No. 9. Subotic: *Wiener Med. Zeitung*, 1887, No. 23. Bull: *New York Med. Jour.*, vol. xlvi., p. 376. Nicholls: *New York Med. Jour.*, vol. xlvii., p. 575. Kühnast: "Dissert.," Breslau, 1887 (forty-five examples). Lardy: *Korrespondenzblatt für Schweizer Aerzte*, 1888. Wölfler: *Zeitschrift für Heilkunde*, Bd. ix., p. 119 (diagnosis made before operation in the case of a female aged twenty-one). Tremaine: *Trans. Amer. Surg. Assoc*, 1888, p. 557. Fenger and Steele: *Chicago Med. Jour.*, April and May, 1888. Annandale: *Brit. Med. Jour.*, June 8th, 1889. The following monographs which bear indirectly on the subject may also be mentioned:—Hagenbach: *Deutsche Zeitschrift für Chirurgie*, Bd. xxvii., p. 110. Martinotti: *Centralblatt für Chirurgie* (abstract), 1889, p. 141. At the time that this lecture was given I was not aware that a case of pancreatic cyst had been operated upon in this country. Professor Annandale's case was not published until 1889, although operated upon early in 1885. The operation was perfectly successful. Mr. G. Smith, in his work on "Abdominal Surgery," alludes to an unpublished case operated upon by Professor Ogston. Other cases have no doubt been met with and operated upon, although the details have not been placed on record. The literature of the last few years would appear to show that cyst of the pancreas is a less rare affection than was at one time supposed.

ON GASTRIC ULCER AND ITS TREATMENT BY ENEMATA.

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A CAREFUL study of the clinical symptoms and post-mortem facts of round ulcer of the stomach forces one to acknowledge that oftentimes the diagnosis is a matter of doubt. The first symptom of such a gastric ulcer is sometimes that of perforation, unheralded by any complaint which points to stomach disorder. Two instances of this I have seen and examined post mortem where death followed in the one case in ten hours, and in the other in two days, on the first sign of any illness. And on the other hand, it is well known that healed gastric ulcers are seen at necropsies in cases where there is no history of any marked attack of the usual symptoms of the disease. Diagnosis is therefore liable to error both on the side of excess and of defect: the latter may lead us into serious mistakes, while the former is as harmless as it is often unavoidable. From a considerable experience and thought over such cases I feel sure that it is always wise to recognise in every protracted case of localised and unerrant pain after food continuing for any length of time, and especially when followed and relieved by vomiting, a possible gastric ulcer. Hæmatemesis clinches the diagnosis as a rule, after the exclusion, of course, as far as possible, of other primary and secondary morbid conditions of the stomach; but as a matter of safe practice it must not be looked upon as necessary for the diagnosis of the disease. We err on the safe side, if we err at all, in thus construing as liberally as possible the symptomatology of gastric ulcer. Doubtless there will be many cases in the remembrance of all experienced clinicians where much difficulty has been found in making the diagnosis between gastric ulcer and marked anæmia with abdominal neurosis, especially epigastric tenderness. But when such doubt exists, it is well, at least for a time, to treat the case as one of ulcer, in spite of such treatment being most inappropriate to the alternative condition. At the worst, but a little time is lost, which can soon be made up for when the diagnosis becomes clearer by instituting a vigorous course of tonic and nutritive treatment and abandoning local measures. I am well assured that by avoidance of all food given by the mouth, thus keeping the stomach empty and restful, is much the shortest way of relieving, and, in some cases, curing gastric ulcer. In instances where the diagnosis is certain and the symptom of hæmatemesis recent, I now begin at once with this line of treatment, and give the patient small enemata of milk and beef-tea at short intervals; and in

other instances, where the diagnosis may not be clear, I employ the same method when there is the slightest discomfort produced by the oral ingestion of small quantities of these fluids. The time thus saved in the cure of these cases is remarkable when compared with the method so frequently followed of persisting with small quantities of fluid food by the mouth and the administration of sedatives, such as bismuth, opium, &c. Many a case of so called "chronic dyspepsia," whatever that may mean, has been successfully treated in this manner, and I would take the opportunity to remark in passing that there is perhaps no more erroneous and misleading term in medical use than this same "chronic dyspepsia"; for, apart from the many cases of gastric uneasiness or pain which are clearly referable by a careful physician to general neurotic disorder, cases of chronic indigestion, instead of overfilling our out-patient rooms, as is so frequently and ignorantly reiterated, are rare indeed. The main object of this paper is to call attention to this matter of feeding by enemata in cases of gastric ulcer. As a partial basis for a short comment I subjoin abstracts of some cases of almost indubitable gastric ulcer treated in this manner. For these I am indebted to the labour of Dr. Wills, who out of a large number of more or less questionable cases in my wards during periods amounting to five years has extracted nearly all the definite ones, with the exception of some who died from hæmorrhage or perforation before any regular line of treatment could be instituted.

CASE 1.—Marie H——, aged nineteen, kitchenmaid, was admitted to hospital on Oct. 10th, 1883, with a history of marked pain after food, and sickness for some weeks, and hæmatemesis (half a pint) on Oct. 5th. For four days she had small quantities of milk and beef-tea by the mouth, slight hæmatemesis continuing. She was then put on small enemata of milk, peptones, and brandy, with ten minims of laudanum every four hours. For nineteen days, with one short interval of pain and hæmatemesis, she continued this treatment, and on the twentieth day was given some milk and a little bread-and-butter. She left the hospital on the fortieth day quite well, having for a week before discharge had ordinary diet.

CASE 2.—Florence H——, aged twenty-four, was admitted to hospital on Nov. 6th, 1883. History of pain after food for two years, with three attacks of hæmatemesis and melæna, the last six months ago. She had been losing flesh considerably, and had derived no benefit from six months' out-patient treatment. She was placed on enemata of beef-tea and milk alternately, two ounces and a half every three hours, with half an ounce of brandy. She had ice to suck. On the thirteenth day a little milk was given by the mouth, and on the twenty-sixth the enemata were left off. She had been for nearly the whole time free from all symptoms. For a few days she had solid food without pain, but had to leave the hospital on the twenty-ninth day from admission on account of scarlet fever.

CASE 3.—Louisa K——, aged twenty-three, housemaid, was admitted to hospital on Dec. 7th, 1886. One month's history of pain and vomiting after food, with hæmatemesis on one occasion (a pint and a half). She lived on milk and puddings, but the pain and vomiting continued. For eleven days after admission she had enemata of milk, three ounces every two hours. Then she had milk and beef-tea alternately every two hours (four ounces) by the mouth. On the twenty-fourth day she had solid food. No pain or vomiting after admission. Discharged well after thirty-eight days.

CASE 4.—Mary H——, aged twenty-two, lady's maid, was admitted to hospital on Jan. 19th, 1887, much wasted. History, five years pain, and some years vomiting after food; much worse last six months. Hæmatemesis (one ounce) three weeks before admission. For the first three days she had small quantities of milk by the mouth; she had pain and vomited on the third day, and was then put on an enemata of two ounces of milk and one ounce of beef-tea every three hours, with a little ice to suck, and an injection of morphia, one-third of a grain, every night for the pain. The sickness diminished, but did not cease for six days. On the thirteenth day of treatment the enemata were reduced to four a day, two ounces of milk being given by the mouth every six hours alternately with the enemata. On the eighteenth day enemata were stopped, two ounces of milk in one ounce of beef tea being given every three hours. She was discharged on the fifty-fifth day, quite well, having gained eight pounds in weight in the last three weeks, and having taken solid food for that period.

CASE 5.—Sarah P——, aged fifty-nine, needlewoman. This was a severe case. The patient had had two attacks, with hæmatemesis, in the previous ten years, for which she had been treated at this hospital. When admitted on June 14th, 1887, with a history of sudden and profuse hæmatemesis and melæna on the 11th, she was nearly dead. She was ordered enemata of two ounces and a half of strong beef-tea, half the yelk of an egg, and two ounces of brandy every four hours. On the tenth day she had two ounces of milk and half an ounce of brandy by the mouth alternately with the enemata; on the twelfth enemata every six hours, and two ounces of milk and two ounces of brandy by the mouth every three hours. Enemata were discontinued on the seventeenth day. On the thirty-fourth day she had solid food. She has remained well up to the present date.

CASE 6.—Sarah P—— was admitted to hospital on June 14th, 1887. This was a case of very marked symptoms of six weeks' standing, but with no hæmatemesis. There was, as in all the other cases, severe localised epigastric tenderness. She had enemata of milk only every six hours, and a similar quantity of milk by the mouth. On the fifteenth day the enemata were stopped, and she was discharged well (after taking solid food for ten days) on the thirty-seventh day.

CASE 7.—Josephine O——, aged twenty-five, cook, was admitted to hospital on Oct. 12th, 1888, an almost exactly similar case to the preceding. Enemata for nineteen days. Discharged well on the forty-second day.

CASE 8.—Elizabeth B——, aged twenty-three, cook, was admitted to hospital on Oct. 1st, 1889, with symptoms of ten days duration. The attack began with severe vomiting of blood, which was repeated on the day before admission. She was given a nutrient suppository every four hours, and in a few days enemata of milk and beef-tea (half an ounce of each) every hour. On the fifteenth day she had milk and beef-tea (of each one ounce) every hour, with an egg and a little bread-and-butter once in the day, and the enemata were discontinued. She had meat on the thirtieth day, and was a month longer in hospital, quite well.

CASE 9.—Dinah H——, aged thirty, was admitted to hospital on Nov. 29th, 1889. Pain for five months with vomiting, and hæmatemesis (about half an ounce) every few days for two months. She had had no meat for four months. She had enemata of milk (two ounces) every three hours, and was free from pain; but after three days, though the enemata were, as in all the other cases, well retained, she left the hospital, preferring her disease to the remedy.

CASE 10.—Alice G——, aged twenty-three, waitress, was admitted to hospital on Nov. 13th, 1889. Very severe symptoms for two years, but no definite history of unmistakable hæmatemesis. She had enemata of milk (two ounces) and beef-tea (one ounce) every four hours, with ice to suck, for nineteen days; and then had in addition two ounces and a half of milk every hour by the mouth. On the thirtieth day she left off the enemata, and on the thirty-fourth she had some solid food. There was occasional slight pain for the first three weeks, but no vomiting. She was fifty-nine days in the hospital.

Remarks.—These patients all did well with fluid enemata, mostly untreated by any digestive agent. From an experience of many cases other than those detailed, some of which I have treated with peptonised fluid enemata, some with simple fluid enemata, and a few with suppositories, I am confident that those who have the simple fluids, such as milk, or milk and beef-tea, do every whit as well as the others. All the patients, whatever rectal alimentation they receive, waste more or less, some considerably, but they recover flesh as quickly. I will not discuss here the question as to whether the water of the enemata may not be the only valuable element. It is certainly striking that there is apparently no difference between the results of treated and untreated enemata, and as in a large majority of my cases I give absolutely nothing, not even ice, by the mouth for many days, I always now use fluid enemata, deeming suppositories in such instances quite out of the question. Suppositories, moreover, are an unnecessary expense, though, doubtless, more convenient to the patient. I have never made the experiment of using injections of water alone, but I think it might justly be tried in the case of a patient not in a hospital. There is certainly grave physiological doubt as to whether any albuminous substances, however treated, are assimilated after rectal "feeding," and it has been amply demonstrated by fasting folk that man can live for

many days on water alone. A careful series of weighings would be valuable in cases treated by different enemata; but I have not had this carried out systematically in any case which I deemed it necessary to treat in this way, as I regard absolute rest of the body as an important aid to quick recovery. I have scarcely ever any trouble about the retention of enemata. They should never be large, but may vary from two to three ounces as a rule, the frequency of repetition being decided in each individual case. Success is largely due to the care of the nurse, who should give the injection slowly, and encourage the patient to help the operation. The rectum should be washed out when any irritative symptoms appear, and opium will then seldom be necessary. To the sister of my ward for women, who for many years has superintended the treatment of these cases with every attention to detail, I owe much of the success I have had. The lesson to be derived from consideration of such cases as these is that there is no difficulty in keeping most patients on fluid enemata for some weeks; that in all cases when the symptoms are masked, such treatment is imperatively demanded at once; that even in doubtful cases it is very often advisable, though very small and frequently repeated quantities of milk &c. by the mouth may often be tried with success, and are thus obviously preferable; and that drug treatment of any kind is scarcely ever of any use, and would be, as a rule, contraindicated. After the resumption of solid food, nutrition is apparently aided by the administration of arsenic and iron for some time. From time to time, and especially in cases which are fed by the mouth on milk throughout, evacuations of the lower bowel must be effected by means of simple enemata, and the rectum should never in any case be allowed to remain or become loaded.

In conclusion, I would remark that in my experience, both clinically and anatomically, gastric ulcer is immeasurably more frequent in women than men. This is the view of most authorities, with the exception of Dr. Fagge, who quotes his experience in the post-mortem room of Guy's Hospital as not supporting the disproportionate distribution between the sexes. Domestic servants, and especially cooks, contribute largely to this class of cases, and I have been sometimes inclined to think that their habit of eating much and often hurriedly at all times and seasons, and just possibly their passion for unlimited vinegar, has something to do with the production of the malady; but Dr. Wills, who has made special inquiries regarding the first of these points, in many cases finds that this cannot be established as an invariable element of causation. That the well-to-do and generally healthy but seldom suffer from gastric ulcer is, however, not to be questioned, and it is further certain that, whether it be regarded causally or not, considerable anæmia of long standing often precedes the symptoms of undoubted or demonstrated ulceration.

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OBSERVATIONS ON THE ADMINISTRATION AND DANGERS OF ANÆSTHETICS.

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IN view of the recent development of this subject, circulars asking for information upon it have been issued by THE LANCET to scientific medical men thoughout the world. This circular has stimulated Dr. Dunlop to record the results of his observations on the subject made in wards 15, 23, and 24 of the Glasgow Royal Infirmary during the last ten years, and to state his opinions thereupon.

Allowing for unrecorded cases in these wards, the following opinions are based on observations of 3500 cases within the specified period. To produce anæsthesia in this number of patients, chloroform has been principally used. In the administration, the drop method was adopted. Ether was sometimes employed; its use by Clover's apparatus was begun on March 8th, 1882. Its use was greatly dependent on the skill and ability of the assistant, some assistants administering the drug with greater skill than others. In a general way ether was administered in the proportion of one case of ether to thirty cases of chloroform. Ether was employed preferably in cases of debility from long-standing disease of joints or from loss of blood in severe railway smashes or machinery injuries. This drug, however, was found unsuitable in operations for hernia, lithotomy, reduction of dislocations, rectal operations, and in persons suffering from pulmonary or bronchitic ailments, or addicted to habits of intemperance.

Referring to the relative dangers of various anæsthetics at the operation or after the operation, Dr. Dunlop remarks that "chloroform is never absolutely safe, no matter how carefully or how skilfully it might be administered. Chloroform is much more dangerous than ether during operations; but after operations ether is more dangerous to life than chloroform from bronchitis or pneumonia setting in. It may be said that when pneumonia or bronchitis follows, the ether was badly administered. That may have been so. It is much more difficult to administer ether accurately than to administer chloroform accurately." On two occasions recently he encountered great difficulty with ether. In one case the breathing had almost ceased, and the pulse failed. The young woman's face had become blanched. She was dying not from asphyxia, but from weak heart action. The remainder of Dr. Dunlop's remarks are as follows:—

Every intelligent assistant I have had during the last ten years has felt happier during an operation when ether was used than when chloroform was administered. I have not seen any deaths from ether or chloroform for ten years; but I have seen many patients both in hospital and in private practice in very imminent danger to life during the administration of chloroform, the symptoms in some instances being those of impending asphyxia, in others those of defective heart action. I have laid down for my own guidance as a surgeon the rule never to have chloroform administered to a patient in my own house, even by the patient's own medical man. It is an extremely awkward and painful experience for a surgeon to have a death from chloroform in his own consulting-room.

A patient coming from the country, accompanied by the family doctor to administer chloroform in a surgeon's consulting-room, the patient to have an examination for stone, or the excision of a wen, or a reduction of dislocation at the elbow, or the breaking down of joint adhesions, is usually in a very unfavourable and unsafe condition for chloroforming. The patient is probably hot, anxious, excited, nervous, and tightly clothed, and at an early stage of the administration of the anæsthetic by the family doctor symptoms of heart danger suddenly appear, and death ensues. It is really much safer for such a patient's life to have him rest for a time in a hotel or elsewhere, and to have the anæsthetic administered there rather than in the surgeon's house. Under no circumstances, and for many reasons, should chloroform be administered by a medical man without at least a third party being present. Again, I never now administer chloroform in a dentist's room in dental cases. There is always great danger to life, and deaths have been far too numerous in the rooms of dentists. Besides, nitrous oxide is so much safer in the hands of dentists than chloroform.

In the space at my disposal it is not my intention to discuss the general accuracy of what is termed Syme's views on the administration of chloroform, or to consider the conclusions arrived at by the Hyderabad Commission, which are based on experiments performed on Indian dogs and monkeys. To help THE LANCET in its consideration of the question, How to save people's lives? I desire to contribute some evidence on the other question, Why and how do some people die under the influence of chloroform?

During the last twenty years in conjunction with my colleague, Dr. Moore, as one of the medico-legal examiners for the city of Glasgow, I have had exceptionally favourable opportunities of acquiring experience of the fatal results following chloroform administration. In these years there has been a considerable number of deaths of individuals while under the influence of chloroform. The deaths, which were made the subject of post-mortem examination, took place in the Royal and Western Infirmaries, in the hospital of the Barnhill Poorhouse, in the operating rooms of dentists and consulting-rooms and elsewhere of private practitioners in the city and suburbs of Glasgow, within the county of Lanark. A careful study of such details as are before me leads me to the conclusion that considering the population, its numbers and character under medical treatment, and subjected to chloroform, the proportion of fatal cases is very small, probably not more than from two and a half to three per annum. Within the last ten years the

deaths under chloroform have been more numerous than they had been in the previous decade. There have been, however, at least eight or nine deaths since Jan. 1st, 1888, and of these seven were the subject of post-mortem examination, and in all, so far as I can learn, it was the respiration that was watched and not the pulse. The respiration gave no signs or warning of approaching danger. It was noted that the fatal results occurred in the young and middle-aged, not in children or very old men, and in females as well as males. It was further noted that some forms of surgical procedure had some peculiar influence in predisposing to a fatal result, such as operations upon joints, not, however, involving the use of the knife. Two individuals died who were having dislocations at the shoulder reduced, one a dislocation at the elbow, and three in breaking down adhesions within and about the knee-joint. In no single case was death attributable to nervous shock from the operation having been begun or completed while the patient was not fully under the influence of the anæsthetic. Some of the deaths which took place while the patients were under chloroform were not directly due to the poisonous effects of the drug itself, but to some other cause. One death was due to asphyxia from vomited matter (tripe) obstructing the air-passages. The help present was neither adequate nor skilled, and the men lost their heads. Another was caused by the bursting of a small pouch (aneurysmal) in the brain, a third of an aneurysmal pouch in the first part of the aorta, both deaths taking place in the early period of the administration and while the patient was struggling. The deaths which are to be distinctly charged against chloroform are, according to the post-mortem appearances, divisible into two distinct classes. In the one and larger class the appearances are those of death by asphyxia—death through the lungs. In the other, and fortunately smaller class, the appearances are those of death by syncope—death through failure of the heart. The proportion is one death from syncope to about twelve from asphyxia. I may mention here that I think the deaths from asphyxia ought to be to a large extent preventable. The deaths from syncope are in most instances beyond the control of the highest skill and the greatest care. In order to make these observations somewhat clearer I mention the following.

In the *deaths from asphyxia* the right side of the heart was full of liquid blood, not dark blood such as is present in asphyxia from drowning, but blood with a pinkish or magenta tinge, which seems to be characteristic of death from asphyxia by chloroform. The left side was firmly contracted and empty, the veins leading to the right side full of blood, the lungs behind engorged with liquid blood of a dark pinkish tint. A general engorgement of the veins of the liver and kidneys, and in some cases petechial spots formed by extravasated blood in the serous covering of the heart and pleural lining of the ribs, and the covering of the lungs. We find often similar petechial spots in new-born infants, who make a struggle to breathe fully and freely, and fail from obstruction by pressure, &c. In the *deaths from syncope*, or failure of heart's action, there was found a flaccid heart with all the cavities empty. No blood on the right side; no contraction of the left ventricle. There was blood in the veins: the cavæ were distended with blood. In some instances the heart was large, soft, and fatty, and its tissue friable. Along with this condition of heart was noted a more or less yellow, soft, fatty liver. In other instances there was no evidence of any disease of the heart or other organs; all that was noticed was a flaccid empty heart, with venous engorgement in the lungs. In one fatal case examined by Dr. Moore there was, in addition to the empty flaccid heart, complete adhesion all round to the pericardium. Death was due to syncope from failure of the heart's action. *Deaths from asphyxia*, or preventable deaths, took place under two distinct sets of circumstances. In one set the administration of the chloroform was too long continued. The patient was too deeply under its influence from the beginning. There was an overdose, the breathing became shallower and shallower, the chest ceased to move, the diaphragm and abdominal walls only moving. The face and lips became livid, and death ensued in spite of artificial respiration. In the second or other set the patient was placed fairly under the influence of chloroform, administered with a due admixture of air, but during the operation, owing to the patient appearing to come out from under its influence, a further dose was administered, and this dose was excessive, and the patient died. The cause of death was asphyxia through the lungs. This is not an uncommon blunder, even in the hands of skilled men, and is due to want of care in the administration and the neglect of watching the respiration.

There are some conditions of lungs and other organs which render the administration of chloroform specially hazardous, and which increase the risk of death from asphyxia. One is a lung or lungs bound down to the walls of the chest and diaphragm by old adhesive bands, the patient having had extensive pleurisy. The breathing capacity or volume of the weakened lung being greatly diminished, a small or ordinary quantity becomes an overdose. With lungs in this condition a very little chloroform seems to embarrass the respiratory organs and bring about a fatal result.

In two dental cases in which chloroform was administered by experienced men, who had not, however, examined the chests, and did not know how imperfect and unsatisfactory the respiratory machinery was, death ensued early in the administration and rapidly. There was no help at hand of a proper kind to save life by artificial respiration. I have known humpbacked patients giving great trouble from imperfect breathing apparatus. Another condition which is embarrassing, but in a different way, is albumen in the urine—Bright's disease. In several of the fatal cases albumen was present in large quantity. Urine should always be examined when possible—"forewarned is forearmed." With kidney action defective in the elimination of urea, epileptiform convulsions may occur and death result. There are always danger and trouble during the administration of chloroform when albumen is present. To prevent death from asphyxia chloroforming requires skill, experience, undivided attention, prompt action in time of danger, and a suitable method of administration. Anæsthetics should never be administered in a close, crowded, small, ill-ventilated apartment, or side room of a ward, or in the lobby of an operating theatre. Neither should there be a crowd around the patient witnessing the operation. Several deaths had the fatal result induced or hastened by one or other of these conditions.

Of the apparatus used in the administration of chloroform, based upon the evidence afforded by the deaths, Allis's inhaler is the most dangerous. Next in order is the folded towel arrangement, and the safest of all is the drop method on flannel stretched on wire.

Deaths from syncope or failure of heart are not common. They do, however, occur, and as a rule early in the administration. A small quantity of concentrated vapour without any air administered to a nervous, timid patient has proved fatal. A healthy, florid-faced young man had chloroform administered to him in private by a surgeon who had gained much experience of chloroforming in the wards of the Royal Infirmary. The chloroform was administered on a folded towel, three or four drachms having been poured on. While the patient was counting, and when he had reached the number twenty-five, his face became at once pale and blanched, the pupils suddenly widely dilated, no pulse was felt at the wrist. The young man was dead. On post-mortem examination I found his heart an empty flaccid bag. There was no disease of any organ, and no evidence of death from asphyxia. I have known a robust-looking ship captain die under precisely similar circumstances, and on post-mortem examination I found only an empty flaccid heart. Both men had hearts and nervous systems specially sensitive to chloroform, and the fatal result could not have been provided against. There is no possibility of discovering beforehand the existence of such a sensitive heart. Weakly, flabby, thin-walled, yellow hearts, and hearts bound to the pericardium by old adhesive bands of probably rheumatic origin, are prone to become paralysed very early in the administration of chloroform.

Indian dogs and monkeys the subjects of experiments by the Hyderabad Commission do not afford the cardiac and pulmonary complications which are often present in man, and conclusions based upon such experiments, however interesting and important they may be when viewed from a purely scientific standpoint, are of very little practical importance or value as guides to us in the safe administration of chloroform to our patients.

Strange as it may seem, disease of valves, hypertrophy of walls, cardiac murmurs of all kinds, give no trouble during the administration of chloroform. I know that from experience in the operating theatre, and I have never found any

valvular disease in any case of death under chloroform. I have no post-mortem data of deaths from syncope in the last period of the administration of chloroform. On that point I have nothing to say.

In conclusion, I have to state that after thirty years' experience as a surgeon in hospital and in private practice, experience both of the living and the dead, I have formed the opinion that at all times and under all circumstances chloroform cannot be administered without some risk to the patient's life. That risk, however, may be greatly diminished—reduced to a minimum—by an accurate knowledge of the patient's condition of body and mind, and the skilful administration of the anæsthetic, which includes due attention to the pulse, as well as watching the respiration.

Glasgow.

PERFORATING GUNSHOT WOUNDS OF THE CHEST AND OF THE WRIST-JOINT, BOTH IN THE SAME PATIENT, AND FOLLOWED BY RECOVERY.[1]

BY SURGEON GEO. S. THOMSON, I.M.S.

THE patient, the native adjutant of the 1st Bombay Lancers, was admitted into the regimental hospital on Nov. 25th, 1889, on account of a perforating gunshot wound of the chest, and another of the left wrist-joint. This native officer was shot in the lines by a sowar (native cavalry soldier), who had at the same time shot Colonel Heyland and another native officer by firing self-made cartridges with his Martini-Henry carbine. I first saw the patient at 8.30 A.M. on Nov. 25th, or about two hours after he had been wounded. He was then suffering from partial shock, with pallor of the face, cold surface of the body, and frequent small pulse due to loss of blood from the injuries inflicted on him by the two shots fired at him. One bullet had entered the chest on the left side behind, at the level of the ninth rib, below the angle of the scapula, and three inches from the spinal column, and having traversed the chest made its exit one inch below the left clavicle, and three inches from the intra-clavicular notch. There was an indented skin-deep wound one inch above and internal to the wound of entrance produced by the wad used in loading the cartridge, and consisting of a circular plate of lead. Air bubbled from the wound of exit anteriorly (traumatopnœa) with a hissing sound during the movements of respiration, and slight pain and difficulty of breathing were complained of. No hæmoptysis, wound emphysema, or internal hæmorrhage was present, and the patient felt at ease except for a sense of oppression in the chest and a slight pain behind the manubrium sterni during swallowing, probably reflex in origin, from injury to some nerve fibres connected with the recurrent nerve. The second bullet had traversed the left wrist-joint, and this wound was produced by the first shot fired at him. The bullet had entered at the root of the thumb between the radial artery and the median nerve and external to the pisiform bone, which was exposed in the large lacerated wound of entrance, and it came out half an inch external to the styloid process of the ulna and just over the wrist-joint, apparently between the radius and ulna. The wound of exit was small, round, and everted, and both wounds bled freely; but there was no arterial spouting, nor could any vessel requiring a ligature be detected. The wounds were all carefully washed out with warm (1 in 5000) perchloride of mercury solution, syringed with a warm solution of tincture of iodine (one drachm of tincture of iodine to one pint of warm water); and after all foreign particles had been removed and all hæmorrhage had ceased the dressings were applied. Powdered iodoform was plentifully dusted into and over the wounds, and covered with lint dipped in 1 in 2000 perchloride of mercury solution, and cotton-wool, a splint, and bandages were applied. The chest wounds were not probed, but carefully examined (by the finger previously rendered aseptic) for any bleeding points, damaged ribs, and foreign bodies; then syringed with the iodine solution, and dressed with powdered iodoform, perchloride of mercury lint, cotton-wool, strapping, and bandages. Perfect rest was enjoined in a separate ward, and the following powder was given at once:—Five grains of subchloride of mercury and half a drachm of compound jalap powder, followed by twenty minims of liquor opii sedativus in a draught; and the patient was ordered to be fed on milk, chicken soup, mutton broth, and sago conjee. At 4 P.M. the same evening his temperature rose to 103·4° F., when he was given five grains of antifebrin in an ounce of brandy: this was repeated in four hours, and brought the temperature down to 100° that evening. When I examined him at 5 P.M., I found bronchial breathing and dulness over the middle portion of the left lung in front and behind. There was no hæmoptysis at any time, and the sputum was quite free from even the slightest tinge of blood. He complained of pain in the chest at the seat of the wounds and difficulty in swallowing, and of pain in the wrist-joint and hand. On Nov. 26th the temperature was only slightly over 100° in the morning (100·8° at 8 A.M.) and reached 101·6° at 12 noon, when five grains of antifebrin in one ounce of brandy were given, and the temperature fell to 99° at 3 P.M.; and never again rose to 101° during the remainder of the time the patient was in the hospital. On Nov. 29th I examined the hand and found it considerably swollen from the webs of the fingers up to the wrist-joint; it was painted with the following solution:—Twenty grains of nitrate of silver, two drachms of spirit of nitrous ether, and one ounce of distilled water, and the following purgative and iron mixture was prescribed:—Four drachms of liquid extract of cascara sagrada, four drachms of the tincture of perchloride of iron, one ounce and a half of sulphate of magnesia, four drachms of liquid extract of liquorice, two drachms of spirit of chloroform, to six ounces of camphor water; half an ounce to be taken every four hours until the bowels were freely moved. The wounds of the hand and chest dressed as before.—Dec. 3rd: I again looked at both wounds and found exit wound of chest almost healed; no pus coming from it or discharge of any kind. The swelling of the hand had completely subsided and the wounds of the wrist-joint were granulating healthily. The skin-deep posterior wound discharged a little matter, due to dead subcutaneous tissue which was sloughing, and had to be gradually removed with scissors and dressing forceps. Syringed both wounds with the iodine solution and dressed as before.—5th: All the wounds healing well, especially those of the chest, and the hand wounds are granulating satisfactorily. Patient eats and sleeps well and is free from pain and fever. No chest symptoms are present, but he is weak, and still complains of difficulty in swallowing. To have tonics and stimulants.—8th: From this date the patient went out daily for a ride in the station hospital cart, and continued to mend rapidly, and made such satisfactory progress that he was able to go on six months' sick leave to his native country on Jan. 3rd, 1890. The chest wounds were perfectly healed, and no symptoms of any antecedent injury to the lungs or thoracic viscera could be detected by careful physical examination, and he felt nothing abnormal in the chest. The hand wounds were almost completely healed, except a small space at the root of the thumb about half an inch in area, which had not yet been covered in by skin. The wrist-joint movements were fair, giving some degree of flexion and extension. The hand is slightly adducted when at rest, and all the movements of all the fingers and of the thumb are perfect, and sensation is normal in all parts of the wounded extremity.

Condition on return from leave, July 18th, 1890.—The patient expresses himself as feeling quite well, and looks healthy and strong. The chest is quite free from all pain and any symptoms which might indicate the serious nature of the injuries inflicted on it. He can adduct, abduct, flex, and extend his wrist-joint and use his hand in riding, but says he finds it becomes more easily tired than his uninjured hand. The scar of the wound of entrance is slightly tender on firm pressure over it, and there is occasionally a burning sensation in the ring finger of the left hand, which finger cannot be moved in flexion with as great freedom as the others. Massage, electricity, and dumb-bell and gymnastic exercises are now being used to the hand, and under this treatment the wrist-joint has become more supple and the sense of power in the hand has increased. The patient is able to perform all his duties as a native officer, and attends all parades with his troop, to the charge of which he has recently been promoted, and is in every respect fit for service.

Remarks.—In this case none of the usual and what are

[1] Published by permission of the Principal Medical Officer, Her Majesty's Forces, Bombay.

commonly regarded as the pathognomonic signs of wound of the lung were at first present, except escape of air (traumatopnœa) from the wound of exit and pain in the chest at the seat of the injuries. The value of the conservative treatment of gunshot wounds of joints is worthy of notice, together with the success of the dry method of treating wounds antiseptically.

DIXA.

SOME OF THE MOST FREQUENT CAUSES OF SUDDEN DEATH.

BY FRANCIS EWENS, M.D., D.P.H.,
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EXCLUDING those cases of death from the various kinds of suicide, violence, or accident, there is a large number (between 3000 and 4000 annually) in which that event occurs quite suddenly, and though in the majority some illness is obviously present at the time, still in many also that condition may be ill-defined, latent, or quite unsuspected. The details of such cases are, at least, of great interest, and may possibly throw some additional light on the direct mechanism of death at all times. The subject has, however, been so exhaustively treated in Dr. Ogston's paper,[1] by Dr. West in his paper,[2] and other writers, and such full lists of causes are given in all the principal text-books, that I feel some apology is necessary before venturing to put forward even the brief *résumé* of the details from all their sources, together with a few additional cases scattered through the various periodicals and journals, and one or two which happen to have come under my own notice. Before doing so, however, it is necessary to remark that the cases occurring among young children require to be separated from those seen in adults, their cause being totally different. Among children, as Dr. West has shown, the most frequent cause of sudden death is some form of laryngeal obstruction, generally laryngismus stridulus; another equally frequent being the acute stage of pneumonia, in which they sometimes die suddenly, even with the disease unsuspected, these, as Ogston has shown, forming a large proportion of the cases of death attributed to having been overlain. Another cause is incomplete expansion of the lung, children in this condition often dying suddenly a week or so after birth. A smaller number die of pulmonary apoplexy, and a still smaller of exhaustion during chronic diarrhœa &c.

Among adults the chief causes in their order of frequency are as follows:—

1. Large blood effusion into the brain or membranes, causing a rapidly fatal coma, those into the medulla being most likely to do so, death in such cases sometimes occurring almost instantaneously.

2. Diseases of the heart, bloodvessels, &c. (*a*) Fatty degeneration. (*b*) Valvular diseases. These are generally cases of aortic incompetence, and next most frequently mitral stenosis. (*c*) Cases in which death occurs during an attack of angina pectoris. In these cases the heart is generally found to be fatty and with its coronary arteries atheromatous, or having the same change in the aortic walls just outside the semilunar valves. In rarer cases a small aneurysm may be found. The most common lesion in fatal cases seems to be a coronary artery obstructed with atheroma. (*d*) Ruptured heart. The rupture is usually on the left ventricle in a heart affected with fatty degeneration. (*e*) Some rare cases of interstitial abscess and of pericarditis. (*f*) Rupture of an abdominal, thoracic, or intracranial aneurysm. (*g*) Pulmonary thrombosis or embolism. Death from these causes occurs much oftener than is generally supposed, forming by far the largest proportion of those cases of sudden death happening some days after delivery, pulmonary thrombosis being then much more common than embolism. The symptoms of the affection are fairly distinctive and well worthy of notice. An intense attack of dyspnœa comes on suddenly, the patient rapidly becoming cyanosed, with swollen cervical veins. The heart acts tumultuously and rapidly; a basic bruit can be often heard to the left of the sternum, and the pulse becomes feeble and thread-like, there being all the time, as can be heard on auscultation, no obstruction to the air entering the lungs. Tessillon[3] gives a distinction between an attack of this kind and one of pulmonary embolism—that in the latter the lips and face become very pallid, are not cyanosed, and that there is less respiratory anxiety and dyspnœa, death in the latter seeming to be due more to shock than asphyxia. (*h*) Impaction of a detached clot (generally coming from the dilated auricular appendix) in a contracted mitral orifice is sometimes seen, and when it occurs causes very rapid death, preceded by a sudden faint, an imperceptible pulse, but a strongly acting heart, gasping respiration, cyanosis, and insensibility. A case of this kind occurred at King's College Hospital some three years ago. A woman, admitted under the care of Dr. Yeo, with mitral stenosis and gangrene of the forearm from embolism, suddenly died with exactly these symptoms, and another case is recorded by Van de Byl[4] as ending in this way in a patient with mitral regurgitation. (*i*) Cases of capillary emboli are quoted in which death occurred very quickly, but they were probably cases of ulcerative endocarditis. (*j*) Rupture of the coronary artery. An interesting case of death from this cause is recorded in THE LANCET of April 20th of this year.

3. Affections of the lungs and pleura. (*a*) Pneumonia: Death sometimes occurs very suddenly in this disease; it usually does so during the stage of red hepatisation, being then due to a clot in the pulmonary artery and the liability to it being out of all proportion to the severity of the symptoms or the amount of lung substance involved. The following case well exemplifies these particulars. A patient of my own was suffering from pneumonia of the right lung, the middle lobe being alone involved. On the third day she felt so little ill that she persisted in getting up to dress, and got out of bed for that purpose, walked across the room, and fell down dead. (*b*) Pulmonary apoplexy and hæmato-thorax sometimes cause sudden death. (*c*) In young children rapid effusion of fluid into the pleuræ has been known to cause sudden death, but there seems no recorded instance of it having done so in the adult.

4 Certain abdominal diseases. (*a*) Rupture of a gastric ulcer. These cases are peculiar, in that sometimes death does not occur immediately after rupture, but suddenly some days even afterwards, without any fresh symptom or post-mortem signs to account for it. A case of this nature occurred in King's College Hospital in 1887, when a young girl came in under Dr. Duffin's care, with an obscure history of a sudden attack of abdominal pain a week previously and subsequent abdominal tenderness, and vomiting and constipation. She woke up the second night complaining of an attack of pain, and, while speaking, turned pale and died almost instanteously. Post-mortem examination showed a tiny ulcer in the anterior wall of the stomach, with a pinhole rupture and lymph around it for a inch or so, but nothing fresh to account for the sudden termination. (*b*) Sudden history of visceral abscesses and of extra-uterine fœtation or of a hæmatocele. (*c*) Ruptured uterus. (*d*) Volvulus.

5. Cholera sometimes kills quickly, and there are several other diseases in which death occurs suddenly, often enough to be noticeable—namely, (*a*) diphtheria. In this affection the pulse sometimes becomes much slowed, and fatal syncope may happen even after all symptoms of the throat affection have subsided some time. (*b*) Typhoid. Dieulafoy[5] quotes fifty cases where sudden death occurred. This happened in nearly all from the seventeenth to the nineteenth day of illness. He puts forward the theory that the fatal result is due either to change in the heart muscle or a reflex shock from the bowel to the medulla, and cites other cases where reflex irritation of the intestine caused death, post mortem a foreign body being found in the bowel. (*c*) Acute peritonitis. (*d*) Some zymotic diseases.

6. Cerebral tumour. This affection sometimes ends fatally with great suddenness, and in such case there is often no appreciable fresh change to account for the event to be found post mortem. Two cases exemplifying this will be alluded to later.

7. Labour is sometimes attendant or followed by sudden death, due to (*a*) pulmonary thrombosis or embolism (these cases happening some days after as a rule), (*b*) ruptured uterus, (*c*) air in the uterine sinuses, (*d*) fatal syncope, (*e*) rupture of a varicocele of ovarian veins, the cases recorded being about all on the left side.

[1] British and Foreign Medico-Chirurgical Review, 1869.
[2] Medical Times, 1869.
[3] London Medical Record.
[4] Ranking's Abstracts, vol. xxvii.
[5] Med. Times and Gaz., June, 1877.

8. Sunstroke may be attended with a rapidly fatal result.

9. Some few rarer causes remain: (*a*) The swallowing large draughts of cold water when heated. (*b*) Mental emotions. These two causes are mentioned in all the text-books, but I have not been able to find detailed accounts of their occurrence anywhere. (*c*) Foreign bodies accidentally swallowed, obstructing the glottis, and causing fatal shock. As to the exact manner in which these causes act in producing sudden death little can be said; it is, however, but reasonable to suppose that the suddenness of its occurrence is a result of the unimpeded, or at any rate very preponderating, action of the mechanism by which life is ended in all cases, and that an investigation into the exact manner in which these particular cases are brought about would throw much light on that of death in general. However, even the scanty facts at present known of these cases throw some little doubt on the accuracy of the generally accepted division of the causes of death into those due to stoppage of the circulation or of the respiration, Bichat's third cause—"death beginning at the head"—being now omitted by many writers. It is certain that the effect of irritation of the vagus on the human being is similar to the results obtained in experiments on animals, in that it will produce slowing of the heart's beats, and, if persisted in, death. Without referring to the well-known case of Czermak, who experimented on himself in this way, or to those of death in patients affected with aneurysm not far advanced enough to have produced that result alone, and where the vagus has been found to be stretched and pressed upon by the swelling, a very interesting case is quoted in the *Medical Times and Gazette*, June, 1884, in which a child aged three died very suddenly, and where the apparent cause of death was found to be an inflamed vagus, pressed upon as it lay between a caseous bronchial gland and an abscess sac. Another case is quoted in THE LANCET of January, 1880, in which death resulted suddenly from dilated ventricle pressing upon a closed fourth ventricle and the vagus centre. It is probable that those cases following diphtheria where death occurs suddenly, often preceded by an extremely slow pulse, which latter symptom without a fatal result is seen, are produced by disease of the vagus. Again, although it may be difficult or impossible experimentally to injure the respiratory centre in animals without also affecting the cardiac centre and so causing death, it is not so in disease in man, as cases of sudden stoppage of the respiration, while the pulse still continues to beat until the patients die asphyxiated are seen in some cases of death from cerebral tumour. Two instances of this happened to come under my own notice: 1. A man in King's College Hospital in 1887, under the care of Dr. Ferrier, with a tumour in the frontal region, was in his usual chronic condition, as he had remained some months; his respiration suddenly quite ceased, the heart going on beating apparently as usual; artificial respiration was kept up for over an hour without the slightest return of normal respiration, and he died at the end of that time. 2. Another similar case was that of a woman with an abscess in the temporo-sphenoidal lobe, and in whom respiration also suddenly ceased while the heart continued to beat. It is worthy of note that absolutely nothing was found post mortem to account for the sudden termination of her illness. Of the opposite condition—continuance of respiration without heart beats—there does not seem to be any recorded instances. Again, the suddenness of the death is in direct ratio with that of the stoppage of the heart, and of all causes those acting directly by the nervous system—i.e., through the vagi either from the medulla or by damage of that nerve—seem to act quickest; as also those cases where it is so brought about by what is generally termed "reflex shock," as in intestinal cases &c., and those of sudden stoppage of the blood-supply to the brain, as in ligature of arteries, which may be both supposed to act in the same way. Also sudden death is slowest brought about when produced by the circulation of non-oxygenated blood, and in this particular it is worthy of note that of the preceding list of causes but very few—such as the comas of cerebral hæmorrhage, pulmonary thrombosis, and apoplexy—give the post-mortem or clinical evidences of death from asphyxia; and that in all these death is slower (except, perhaps, pulmonary thrombosis) than in most of the other affections, in some of which it is often absolutely sudden.

Therefore, having regard to the fact that stoppage of the respiration is not in itself fatal until the heart stops; that stoppage of the heart's action seems invariably and immediately to be so; that stoppage of the heart may be caused by nervous influence alone, when all the other organs seem apparently healthy, as in the case of death from cerebral tumour, vagus pressure, &c., above alluded to, as well as cases of death from lightning and reflex shock; and that it is probable that the very "cardiac cases" themselves may be explained by anæmia of the cardiac plexuses,—it is therefore possible, and a little probable, that the immediate cause of death at all times is a nervous influence stopping the heart; that "cerebral" death is the only form, that from other causes, as from asphyxia, being a misnomer, that condition only being fatal when the non-oxygenation of the blood is sufficiently intense to excite the medullary cardiac centre.

Highgate, N.

ON THE VALUE OF EMACIATION.

BY J. B. NIAS, M.B. OXON., M.R.C.P. LOND.

EMACIATION is a prominent feature in many diseases. Many of the phenomena of disease are, in reality, efforts at repair. It will, therefore, be advantageous to inquire if some good purpose is not served by emaciation. To begin with diseases which affect the circulation. In many such we may note that the patient will rapidly lose flesh, and that when the loss has proceeded to a certain degree, it is arrested. The patient becomes and continues thin. Not only is it difficult to fatten him, but he is not much benefited by the attempt. Should his disease be arrested, but leave some injury behind, the patient will probably continue thin. Instinctively, in consequence, we look for the presence of disease, active or quiescent, in sparely developed persons. And, practically, we look for it in the territory of the circulation, either pulmonary or systemic, and generally find something. Such emaciation, ceasing at a certain point, does not much exceed what is seen in athletic training, and may be defined as an involuntary training, forced upon the patient by his ailment. What, briefly, is the benefit of training? Unusual effort in untrained men or animals is checked, not by muscular exhaustion, but by congestion of the pulmonary circulation and paralysis of the right ventricle of the heart. The effect of training is to enable the pulmonary circulation to keep pace with the increased activity of the systemic. Several changes concur to this end: dilatation of the lung and of its bloodvessels; hypertrophy of the right side of the heart; and most especially absorption of every tissue which is found to be superfluous for the effort in view. This absorption reduces the area of the systemic circulation; and it is followed by a reduction in the quantity of blood, because a smaller quantity will suffice for active circulation through the lesser area. The individual so trained is in the condition of having a pulmonary territory larger than is necessary for his state of rest; and, consequently, with a greater margin for relief upon exertion. Conversely, the contrary condition of obesity develops the systemic circulation to the full capacity of the lungs, so that the least exertion will produce dyspnœa. Acute disease being like exertion, we can see the advantage of entering upon it in a state of training. The exhaustion to be feared is that of the heart's right ventricle; and the inconvenience of existing stimulants is, that they do not stimulate the right ventricle by itself.

To return to emaciation, as produced by disease. Let us first take the case of diseases of the lung. Should the territory of the pulmonary circulation be diminished by such a disease as phthisis, it would be impossible for the patient, without emaciation, to have an active circulation in the systemic area without danger of congestion of the lung. The feeble attempts that are made at hypertrophy of the lung in this disease are thus met half way. The same thing is true of all emphysema of the lungs, whether senile or morbid. Then we may consider the disorders of the greater circulation. In disease of the valves, when the muscle has to do the work of the valves, and in decay of the aorta, when the ventricle has to combine the aorta's duty with its own, the smaller the volume of blood to be dealt with the better. Without reduction of the area through which it flows, a reduced amount of blood would only result in a sluggish circulation. Emaciation in such cases is therefore salutary. Moreover, the capillaries are

the seat of greatest friction; they are, therefore, the part to be reduced. This is the reason why all animals, in a state of nature, grow thin as they grow old. Man, and the creatures under his control, may violate this law, but not with impunity. Acute disease, when the arteries are decayed, is doubly dangerous. The right ventricle of the heart may be exhausted, as before, but now the left ventricle may also prove unequal. Stimulants here can have but little drawback. But in surplus lung, and an amount of blood that is well within the powers of propulsion, lies a greater safety. Obesity is dangerous to the aged.

It would be well to consider the phenomena of waste in fever by the light of an assumption that they are salutary. The brute creation, when suffering from fever, eat nothing, yet they do not die, but recover. The body seems destined to feed upon itself, and to delay all repair until convalescence. Great responsibility rests upon those who supersede this instinct by an artificial method. Graves, who fed fevers, at the same time bled his patients. Venesection has this drawback, that to relieve the right heart we are obliged to stint the left, and to reduce the systemic circulation to a sluggish flow. The speedy repair of such loss of blood shows that its benefit must be only temporary. Such a remedy is an imperfect substitute for a capacious lung. The perception of this inconvenience has led to the disuse of bleeding. The concomitant pressing of food in fevers should probably follow it. The most evident of natural remedies for any kind of fever are starvation and emaciation. However indulgent appetite may be in health, it returns in disease to the strictest authority. Obedience to its dictates may shatter superstitions, but will not jeopardise the cure. In chronic diseases, the physician who thinks of the future of his patient will look grudgingly on fat. It provides for warmth and irregularity of nutrition. If these be provided for in other ways, much relief can be given to the circulation; and if in acute disease the presence of a tissue should prove an embarrassment, the physician will not interfere with its removal.

Brook-street, W.

A CASE OF PATENT FORAMEN OVALE, WITH AN ATTEMPT TO EXPLAIN THE SYMPTOMS OBSERVED.

BY WALTER H. HAW, B.A., M.R.C.S. ENG., L.S.A.

THE child in which the following symptoms occurred was born on Oct. 5th, 1889, and died on the 19th of the same month. It was a breech presentation, so I was told, and a long time elapsed before the delivery of the head. It did not cry at once after birth, was blue, and did not breathe for some time. It was also roughly handled in the attempts to deliver the head. After breathing was established the rhythm was described to be normal. On Oct. 12th the father called to tell me that the child had been yellow for some days. I told him what is known about the causation of icterus neonatorum, and to watch the child. On the 15th I was hurriedly called, as the little one had developed fresh symptoms that morning. (It is suggestive that the symptoms commenced on the tenth day, when the foramen ought normally to be closed.) This was the first time I saw the patient. The following notes were taken at the time.

Digestive system.—Tongue moist, white. Motions very yellow.

Respiratory system.—Breathing irregular; several quiet inspirations and expirations followed by an interval of repose. On auscultation it can be made out that during inspiration air enters the lungs fairly well. Resonance good.

Circulatory system.—The heart beats normally while breathing is going on, but at the end of the interval of repose becomes slow, full, and irregular. The lips, eyelids, nails, and generally the extremities, although their heat is fairly maintained, are cyanosed, and the circulation on pressing the fingers is found to be very languid. Emaciation is marked, there is ophthalmia due to leucorrhœa in the mother, and there are long, downy hairs scattered over the back.

On the 17th occur the following notes:—Breathing 11 per minute, three or four rapid diaphragmatic inspirations with falling in of the chest, followed by an interval, during which none are apparent either to sight or hearing. The heart acts well, there is epigastric pulsation, no murmurs, but at the end of the interval the heart shows signs of being in difficulties, becoming slower, fuller, and irregular. The pulse now becomes apparent at the wrist, disappearing during the respiratory efforts. The lips and the eyelids become blue at the end of the interval, but there is no hyperpnœa and the circulation is languid in the extremities. Micturition and defecation have been normal, but the motion to-day is greenish. At my evening visit cold water was dropped upon the chest in order to rouse the respiratory centre, when strong inspirations resulted, but the previous condition soon returned.

Oct. 18th.—The breathing is 23 in thirty seconds. The character of the respiration remains unaltered, but the period of respiratory effort is very much more prolonged (one minute), while the period of repose is one minute and a half. (The father states that on one occasion this morning the breathing was absent for two minutes.) The duration of each, however, varies considerably. The icteric condition has disappeared, and the lips have a pinkish colour, except at the end of the interval of repose, when they acquire a bluish tint. The falling in of the chest during inspiration is less, but the diaphragm is the chief agent. While examining the child this morning I exposed the chest for the purpose of applying the cold douche, and in watching the respiratory acts allowed the child to remain exposed for rather too long a time. The whole body became cold, and immediately afterwards intensely blue, and there were gasping respirations and irregular and slow action of the heart. The respirations were not those of asphyxia, but like those noticed immediately before death from other causes. Death appeared imminent. Warmth was immediately applied, and at once the aspect changed, the child quickly returning to the condition in which it was shortly before.

In the evening I have the following notes: The child does not swallow; mouth moist, tongue white, heart acting well. Hands and feet not so blue; breathing as usual; much emaciation. Cornea sensitive, and the pupils respond to light. Bowels &c. normal. The child died at 12.30 A.M. on Oct. 19th. I held a partial post-mortem at 11 A.M., confining myself to the heart, and my examination of this was very incomplete owing to the objection of the father to further procedure. However, I discovered a patent foramen ovale and an abnormality in the pulmonary artery, which I had no time to examine. The passage from the right auricle to the left, as shown by a blunt needle, was oblique from behind downwards and forwards, the opening in the right auricle being valve-like. The coronary sinus was seen in front of and slightly below this slit-like opening. The internal mammary vein seen on raising the sternum was full of dark blood; the coronary veins, the superior and inferior venæ cavæ, were gorged, and the auricles were of a dark-blue colour. The lungs were pink, floated in water, and crackled on pressure. This was all I discovered in the time allowed for the examination, except that the right heart contained a dark blood-clot and the left was empty.

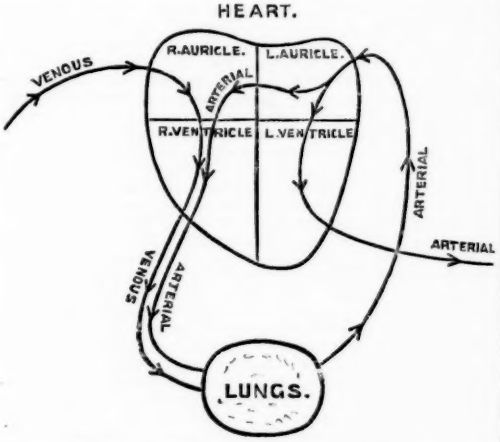
As no disease could be detected during life, except the icterus neonatorum, which was rather a sign of imperfect oxygenation of the blood, I was compelled to attempt a diagnosis between "functional depression of the respiratory centre in the medulla," and a "probable patent foramen ovale," though I could not see how this latter in itself could account for the altered respiratory rhythm. Now, was it possible to diagnose between the conditions? It is well known that in many diseases just before dissolution occurs such rhythm of respiration takes place (Cheyne-Stokes respiration). Professor M. Foster, in his Text-book of Physiology, alludes to it in the following terms: "The cause of the phenomena is not thoroughly understood. Stokes connected it with a fatty condition of the heart, but it has been met with in various maladies. Schiff observed it as the result of compression of the medulla oblongata, and closely similar phenomena have been observed during sleep under perfectly normal conditions."[1]

The phenomena are, I think, to be expected in cases in which it may be presumed that the nervous energy of the respiratory centre is at a low ebb. In such cases the dearterialisation of the blood would have to be very com-

[1] Page 341, third edition.

plete before a respiratory effort will appear. When it does appear, it will probably be quicker and stronger than usual, and the blood will quickly become arterialised to such a degree as to ensure rest for the depressed centre. Respiration will then be in abeyance until the blood is again sufficiently dearterialised to cause explosions in the respiratory centre. Within limits, the lower the irritability of the centre, the longer will be the period of repose. Now, the respiratory centre in this case responded well to the application of cold *at first*. When cyanosis appeared, and immediately before, there was hardly any response. I suppose, then, we may conclude that its irritability was normal at first, and on the day before death was so low as hardly to respond to the stimulus. Hence it would have been an error to diagnose "functional depression of the respiratory centre." Now, supposing that this cause had been satisfactorily excluded, the diagnosis would have been "Probable patent foramen ovale." But how could this condition account for the anomalous symptoms? I imagine that the arrangement and direction of the opening in the inter-auricular septum will account for them. The orifice in the right auricle was valve-like, the passage was oblique, and the orifice in the left auricle appeared free, for a blunt needle passed freely. What effect would this have upon the circulation?

The accompanying diagram will, I fancy, show the probable currents of blood through the heart. By following the course of the current, indicated by arrow-heads, it will be seen that in addition to an auriculo-ventricular arterial



flow, there is also an auriculo-auricular arterial flow from the left auricle into the right, but this occurs only during diastole of the auricles. (No murmurs of any kind were heard during life.) This flow will be favoured by the higher blood-pressure in the left auricle than in the right, even though that pressure be negative. During systole the venous blood, and the arterial blood received during diastole, are prevented from passing from the right auricle into the left by the closure of the valvular opening. Consequently there is a mixture of arterial and venous blood in the right auricle and in the right ventricle. Mixed blood would therefore pass to the lungs through the pulmonary artery. What effects upon the heart and respiration would such a pulmonary circulation have? Can we on the basis of this method of circulation account for the symptoms and post-mortem signs so far as these latter were observed.

1. The pressure in the right auricle would be higher than usual, or rather it would contain more blood than normal, and there would naturally be a backward pressure through the veins causing general venous congestion. This would account for the engorgement of the various veins mentioned when describing the post-mortem appearances.

2. The pressure in the left auricle would be less than normal, but probably always greater than that in the right. So would the pressure be in the left ventricle and arteries. Consequently the ventricle will contract with less force, and the pulse will tend to become imperceptible. With such a circulation, then, we should expect the right side of the heart to act more strongly than the left. This seems to have been probable as distinct epigastric pulsation was noticed, but the pulse at the wrist was imperceptible except at a certain period of the cycle. So much for the probable effect of such a circulation upon the heart. What probably would be its effect upon the respiration?

Less blood needs less arterialisation in the lungs to supply the wants of the economy; therefore fewer respirations will suffice. If the arterial leakage into the right side of the heart be copious, respiration may soon be brought to a standstill, for as long as the right ventricle contracts strongly, there will be more arterial blood than usual in circulation. Consequently, as long as this lasts, there will be no respiratory explosions. If respiration continue in abeyance, what will be the result? No blood is freshly aerated, mixed blood passes into the pulmonary veins, and so into the left auricle and ventricle. A time arrives when there is no more arterial blood in the lungs, and if the absence of respiration were to continue, purely venous blood would be in circulation, if this were possible. The respiratory centre wakes up at a certain stage of venosity, the lungs expand, blood is aerated, and the cycle is repeated. Such a circulation, if respiration continued, would ensure an increase in the arterial blood in circulation, so long as the right ventricle did not fail. We know that this condition of the blood will ultimately stop respiratory explosions. Consequently breathing will ultimately cease, and will remain in abeyance until the blood is again sufficiently venous to excite action in the centre. This venosity is brought about by the repose. Therefore the blood in circulation will be alternately more venous and more arterial, and during the venous phase there will be respiratory explosions, and, during the arterial phase, repose. To account for the other symptoms: *a*. The icterus. This was probably due to the peculiar manner in which the blood was oxygenated. When the breathing improved for a time it passed away. *β*. This note occurs on Oct. 15th: "The heart beats normally while breathing is going on, but at the end of the interval of repose becomes slow, full, and irregular." It may easily be shown that the venosity of the blood is greatest at the end of the interval of repose, and this condition, in addition to the pulmonary obstruction, will put the heart into greatest difficulty at that time. For the same reason, the lips and eyelids would be bluest at the end of the interval, and from the notes it can be seen that this was noticed. There was never any hyperpnœa, except when the cold douche was applied the first time. *γ*. The marked effect of the cold douche in prolonging both the period of action and that of inaction seems intelligible. It roused up the respiratory centre, and so diminished the resistance to respiratory explosions. Consequently, when it started acting, it would go on for a longer time, arterialise more blood, and allow the period of repose to be longer. A less venous condition of blood would set it going again, and so on. *δ*. It was noticed during this prolongation of both periods (action one minute, inaction one minute and a half) that while respiration continued the lips were pinkish, but at the end of the repose they became bluish. This was possibly due to hyperarterialisation of the blood. *ε*. With regard to the symptoms resulting from the exposure, when the whole body suddenly became intensely blue and the heart almost ceased acting, my idea is that when the heart partially failed the valve-like action of the foramen did not take place, because of relaxation of the heart wall, and as the pressure was now probably equal in the two auricles, venous blood passed directly into the left auricle and set up temporarily marked general cyanosis. Warmth revived the heart, and when full action was reinduced the former circulation was resumed. It was said by the parents that towards the close the breathing became more regular, and that just before death the child became quite blue.

Rustenburg, Zuid Afrikaansche Republick.

THE will, dated Jan. 27th, 1888, of the late Sir Mungaldass Nuthoobhoy, C.S.I., of Bombay, has been proved in London. He directs the executors of his will to build on land belonging to him, adjoining the sanatorium which he founded, a bungalow, to be used as a dispensary, for which purpose he bequeaths to them 10,000 rupees, and for the maintenance of the dispensary 30,000 rupees, and to provide a Hindoo licentiate as medical officer 30,000 rupees. He bequeaths also for the maintenance of the sanatorium 10,000 rupees, and for a temple of Shiva adjacent thereto, and the idols in the temple, 5000 rupees. The value of the testator's personal estate in England is £5288.

A FEW OBSERVATIONS ON THE PATHOLOGY AND TREATMENT OF MIGRAINE.

BY W. PEMBERTON PEAKE, M.R.C.S., L.R.C.P.,
SURGEON TO THE LEICESTER PROVIDENT DISPENSARY.

No more appropriate description of this distressing complaint could be given than the term "nerve-storm," it being one of that class of nervous diseases classed under the head of the "paroxysmal neuroses," and the observation of several cases only points out how widely different is the aspect of each case and how utterly useless is anything in the shape of empirical treatment. It is well known how an attack of migraine commences: first a small portion of the field of vision is obscured, generally about the centre; this small patch grows larger and larger, and works its way from the centre of the field to one side or other. The blurred patch is replaced by waving, zigzag lines, slightly luminous, and which can be observed whether the eyes are open or shut. These symptoms gradually wear off, and the patient vainly believes his attack is over. This I shall venture to call the first stage, in contradistinction to the headache, or second stage; and before going on to describe the second stage I would venture to mention some rather remarkable variations of the first stage. I believe that the phenomena of the first stage are by no means limited to the visual organs, but may occur in any of the organs of special sense. Several writers have remarked a tingling of the fingers accompanying the visual derangement, but I have met more than one case in which such tingling preceded the headache stage when no visual symptoms were noticed. This tingling occurred along the ulnar border of the hand, and completely passed off before the headache set in. Another most remarkable case I saw in Durham, and it was that of a patient who complained of loud buzzing noises in the ears, followed by severe headache. I at once thought of quinine or salicine, but the patient denied having taken any medicine. I next examined both ears carefully and found nothing wrong, so I put it down as a case of migraine, and treated it as such with success. The taste I have never found alone affected, though I do not doubt that it is, and is unobserved; but I have met three or four patients who, when the visual symptoms are on, fail to taste tobacco smoke when smoking or to smell it. The second stage comes on gradually after the first stage has entirely passed off, and consists of a gradually increasing neuralgia, generally in the supra-orbital or auriculo-temporal nerves. The neuralgia is always limited to the nerves on one side, and, as far as I have observed, always on the opposite side to which the field of vision was affected. The headache, or rather neuralgia, increases in intensity till a maximum is reached, and then diminishes till the "storm" is over and the patient is as he was before. Another prominent symptom of the second stage is gastric derangement, and some authors state that sickness generally brings the attack to an end; but I have found that sickness is only present in one out of eight cases, although nausea was present in them all. It is unnecessary to say that there is a complete repugnance to food during the whole of the second stage. The pathology of migraine has been a matter of considerable doubt for some time. That it is a vaso-motor change is generally recognised, but I cannot help thinking that the first and second stages of the complaint are due to different states of the vessels in such portion of the optic thalamus, or wherever the seat may be, and I am driven to this conclusion by the wide difference in the symptoms of the two stages. If the temporal artery be felt in the first stage it is found to be small, hard, and wiry, while in the second stage it is dilated and throbbing. Again, pressure on the internal carotid makes no difference to the symptoms of the first stage, but in the second stage it almost completely stops the headache, and again, a glance at the discs in the two stages shows a marked difference. In the first stage they are nearly normal, but I have more than once observed a contraction of the vessels, while in the second stage the discs are suffused and the vessels dilated, and their pulsations clearly visible.

These observations lead me to agree with the theory put forth by Dr. Latham in 1872, that migraine is due to cerebral anæmia, followed by a supervening hyperæmia. The treatment takes two forms—first, the preventive treatment; secondly, the immediate treatment. The preventive treatment compels a close inquiry into the patient's habits and mode of living. Dyspepsia has long been recognised as an important cause, and constipation is equally important. Another cause as common as either of these is over-exertion of the eyes or an irregularity in the vision of the two. Over-exertion caused by reading too much or contracting the eyes to accommodate for small print is frequently overlooked. I believe the sixpenny novel has many thousands of attacks of migraine to account for. Again, it is highly important to observe, if possible, the position of the patient while reading, for most people generally settle down in a position which affords as much light as possible to fall on the top of their heads, while very little falls on the book they may be reading. Railway travelling causes many attacks of migraine, and patients who are subjects of it should be recommended to keep their eyes shut for at least part of their journey. Change of scene is another cause probably resulting from over-exertion of the eye; I have known two or three patients who positively dread the first week of their holiday on account of the inevitable attack of migraine which is sure to come on. Certain drugs cause attacks of migraine, and the most important are nux vomica and strychnine, cinchona and quinine, and salicylate of soda. I know cases in which ten minims of the tincture of nux vomica invariably brought on an attack, and one case in which the drug was given in the hope of it working a cure. The immediate treatment is very important, as one little item left out may spoil the whole effect of the drugs. I have found only two drugs to have any effect, and those are guarana and antipyrin, and they must be given at the commencement of the attack, or they are useless. Of the two I prefer the first—guarana, for although it does not work with the rapidity of antipyrin it is more certain in action. The difficulty with antipyrin is to find the exact dose to suit the patient. I remember one case—a doctor, who immediately an attack came on took twenty grains of antipyrin, but never seemed to gain any benefit therefrom. I recommended him to try ten grains instead, and the result was marked, the second stage being entirely absent, although there was prostration from the drug. And this is another objection to antipyrin: if it does not do good it makes the patient much worse, for it is most depressing at a time when the patient is most depressed.

My treatment of an attack is as follows. Immediately the symptoms of the first stage come on the patient should cease all work, should take twenty grains of guarana, and fill his stomach with beef-tea or broth, and then lie down and, if possible, sleep the whole attack through; but if unable to sleep, he should rest till the end of the first stage, and then a cup of strong tea should be given; and during the second stage it is generally important that the mind should be occupied by conversation or light study, as dwelling on the pain of the headache makes it many times worse. By this treatment the second stage is usually averted, and if it does ensue it is transitory, and hardly noticeable.

Leicester.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THE TRUE NATURE OF SUBUNGUAL EXOSTOSIS OF THE GREAT TOE.

BY W. ROGER WILLIAMS, F.R.C.S.,
SURGEON TO THE WESTERN GENERAL DISPENSARY, LATE SURGICAL REGISTRAR TO THE MIDDLESEX HOSPITAL.

SOME time ago, after careful study of a considerable number of cases of this interesting disease, I came to the conclusion that these tumours differed from other exostoses in several important particulars; and that their peculiarities could only be accounted for by regarding the tumour as due to overgrowth of the rudiment of a supernumerary toe. The reasons that led me to this conclusion were briefly these: (1) The frequency with which the disease affects the great toe, for I have met with only a single instance of it on any other. (2) The extraordinary constancy with which the tumours arise from the tibial side of the terminal phalanx. I have never seen a tumour of this kind con-

nected with any other part of the phalanx. (3) The structure of the tumour itself, which is not merely that of a cancellous exostosis as it is usually described. The tumour is a real outgrowth from the phalanx, consisting externally of cortex and internally of cancellous tissue, both of which are directly continuous with the corresponding structures of the phalanx. The fibro-cartilaginous matrix which caps the tumour may, I think, be regarded as the remains of the original rudiment. The following considerations tend to support this view of the question and to give the subject greater definition. In the foot most cases of polydactylism occur in connexion with the great toe. In these cases there is, as a rule, only a single extra digit, and in the slightest degree of the malformation the affected part is simply bifid at the extremity. The supernumerary part is always placed on the tibial side of the great toe. Cases presenting several supernumerary digits probably belong to a different category—that is to say, they are examples of incomplete duplicity of the whole extremity. The pentadactylous type of pes prevails widely among vertebrates. There are, however, good reasons for believing that this type has been evolved from a more primitive one, possessing at least six digits (hexadactylous); by the more or less complete abortion of a digit, the pre-hallux, from its tibial side.[1] We were, however, unacquainted with any air-breathing vertebrate actually possessing such characters until Marsh published his description of Sauranodon in 1880.[2] The anterior and posterior limbs of this creature, which functioned as paddles, possess six complete digits. The rudiment of a sixth toe has been observed on the tibial side of the pes of several five-toed amphibians, in reptiles, and in many mammals. I have a dog with six digits on the extremity of the right forelimb, of which the two inner ones are rudimentary, but have well-developed nails. On this subject Wiedersheim remarks:[3] "In human embryos of the second month a distinct cartilage is present on the tibial side of the tarsus, and this probably answers to a small bone on the tibial border of the foot of monotremes, American marsupials, edentates, carnivores, rodents, insectivores, and monkeys. This most likely corresponds to an extra-first toe (pre-hallux of Bardeleben)." Thus, as Dr. Cowper has pointed out, there is sufficient evidence to show that pentadactylous vertebrates have more or less completely lost a digit from the tibial side of the pes, and that this lost digit (the pre-hallux) occasionally reappears, with varying degrees of incompleteness, in consequence of reversion. Bardeleben maintains that the ancestors of modern mammals were *heptad*actylous, and that they have lost a digit from the post-axial as well as from the pre-axial side of the foot. I think the evidence here adduced is sufficient to warrant me in associating the subungual exostosis of the great toe with the rudiment of this lost pre-hallux in its least complete form.

Welbeck-street, W.

[1] Journal of Anatomy, vol. xxiii., p. 242 *et seq.*
[2] Amer. Journ. of Science &c., vol. xix.
[3] Comparative Anatomy of Vertebrates, English translation, p. 109.

TWO CASES OF CHOREA DEPENDENT UPON THE PRESENCE OF INTESTINAL WORMS.

BY THOMAS W. JENKINS, M.D.

THE following cases are not without interest. The first is probably unique in that the subject of it has had two attacks of chorea within twelve months, a similar cause operating on both occasions.

CASE 1.—John H——, aged four, of fair growth and previously healthy, except for an attack of measles and a very severe attack of scarlet fever, from both of which he recovered without sequelæ, was first seen on March 30th, 1889. For several days previously his parents had noticed awkwardness in his walk and uncertainty in the use of his right hand. I found considerable erratic, jerking movements of right hand, arm, and leg. Left side unaffected. Occasional slight twitching of right side of face. Tongue, when protruded, in constant motion. Heart sounds normal. On April 4th there was increased violence of movements, still unilateral. Heart irregular in rhythm and force. Respiration also irregular, both in frequency and in depth, and quite independent of cardiac irregularity. On the afternoon of the 4th patient complained of sickness and vomited several times during the night. Choreic movements very violent. On the morning of the 5th he vomited a round worm about 12in. long. In the forenoon he received a teaspoonful of oil of turpentine, which was immediately vomited. A second teaspoonful given an hour later was also rejected. In the evening a third teaspoonful was administered and retained. Next morning a strong dose of senna resulted in active purgation, which brought away a large number of round worms of all sizes. When seen in the afternoon, patient was calm and collected, only very slight movements being detected. Heart sounds and action normal. On the 10th, after a dose of senna, a small dead worm was discharged. On the 12th the patient was perfectly well.

In March of this year a second attack occurred. Choreic movements were again observed. Oil of turpentine was again administered, and a large number of thread-worms was voided. After a few days the patient had completely recovered.

CASE 2.—W—— had chorea when twelve years of age. After a twelvemonth's suffering, during which time many drugs had been employed, he was sent to Leith for "change of air." Shortly after arrival there the choreic movements became very violent. Oil of turpentine was administered, with the result that a number of round worms was discharged. After a few days the patient returned home well.

CASE 3.—B——, a girl aged eleven. This case was of a different nature from the foregoing. During the development of an abscess in the mastoid cells chorea supervened. As soon as the abscess was opened the chorea ceased.

These cases prove conclusively that chorea may be caused by various forms of peripheral irritation.

Whifflet, N.B.

A CASE OF BIFID IMPERFORATE ANUS, WITH DEFICIENCY OF THE RECTUM.

BY FRED. EDGE, F.R.C.S. ENG., B.S., M.B. LOND.,
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A MALE child, three days old, was brought to the hospital. Since birth nothing had passed per anum. Castor oil had been given more than once, and the child had vomited repeatedly and was in great distress. On examining I found the abdomen distended. There was an anal depression, which was divided into two by a median septum continuous in front with the raphe of the perineum. Both divisions ended blind. On compressing the abdomen the pelvic floor was caused to project rather freely, thus demonstrating the probability of the extension of the rectum into the pelvic cavity. I determined to dissect down upon the rectum, to open it and to stitch the margins of the rectal opening to the edges of the perineal incision. My colleague, Mr. Baxendell, kindly gave chloroform, and assisted me. Having passed a sound into the bladder, I made a crucial incision over the anus. I dissected carefully in front of the sacrum, and having found the rectum I opened it. Meconium escaped freely. I then tried to suture the rectum to the skin; but it was so high that I could not bring them together, so I approximated them with a few sutures, thus leaving a dangerous uncovered surface of tissue. The parts were dusted with iodoform and a simple dressing of lint applied. The child remained in the hospital three days and progressed favourably, the wound looking healthy. It was then taken home by its mother. It grew worse day by day, and died on the tenth day after operation. There was no cellulitis about the wound or other sign of inflammatory mischief, but the body was in a filthy condition and very emaciated.

The chief point of interest in the case, apart from its adding another to the long list of unsuccessful cases, is the bifid condition of the anal depression or proctodeum. From my reading I find nothing pointing to the possibility of the proctodeum ever being a double involution. It seems probable that the tendency to union, which causes the closure of the genital cleft and produces the raphe of the perineum, had been carried backwards to the embryonic cells of the anal site, and thus produced the median septum. Perhaps I may be allowed to say that in another similar case I should feel justified in dissecting more widely and in using more traction to bring the presenting bowel down to the perineal surface. Because if this is not done, the track intervening between the bowel and the surface will become a mere strictured sinus.

Manchester.

IMPERFORATE ANUS.

BY R. H. ELLIOT,
HOUSE SURGEON TO THE BEDFORD GENERAL INFIRMARY.

THE notes of the following case of imperforate anus may be worthy of record, as I believe the successful cases are somewhat uncommon.

On April 23rd, 1890, a five-weeks' old child, Isabella D ——, was brought by her mother to the infirmary, with the statement that she had no passage. Mr. Kinsey examined the case, and it was found that the rectum opened on the posterior wall of the vagina, immediately above the junction of mucous membrane and skin. From this orifice, whose long axis was transverse, the fæces were freely escaping, and were light yellow and semi-solid. A bent director was passed through the false anus, and made to present at the situation of what should have been the anus, but which was only represented by an elliptical prominence of bluish skin. Mr. Kinsey cut down on the director through about half an inch of tissue, and came upon the bowel, which was opened, and the cut edges sutured to the skin wound by four silver points. No anæsthetic was given, and a small rectal bougie was tied in. It was, however, found that the child would not tolerate the constant presence of the tube, so it was passed and kept in for an hour once daily. At first the orifice showed a great tendency to contract, but the need of dilatation lessened, and after about a fortnight the intervals between the passage of a bougie were rapidly increased, till it was found that a month was sufficiently often to interfere. *Faut de mieux* we use Hegar's dilators, a No. 10 passing with comparative ease. The child's condition has greatly improved from the first. From being a wizened, marasmic morsel, weighing only about 5 lb, it has gained flesh, and is now a healthy looking child 10½ lb. in weight. It appears to have a good sphincter muscle. Very little fæces pass per vaginam. Mr. Kinsey does not mean to close the vaginal orifice until the parts become larger and less friable. The patient, who is her mother's first and only child, shows no other signs of deformity.

Bedford.

A LARGE NÆVUS REMOVED BY EXCISION FROM THE AXILLA.

BY CECIL A. P. OSBURNE, L.R.C.P.E., L.R.C.S.E.

ON June 19th of this year I was asked to see an infant, female, aged ten months, who had a rapidly growing nævus. According to the mother's account, the child was taken to a medical man when the growth was about the size of half-a-crown, who treated it by "passing pins under it." Since this operation, however, the tumour grew so rapidly that further advice was now sought. On examination, I found a large nævus occupying the left axilla, and running round its posterior border to the back of the scapula; it measured in length from three and a half to four inches, and was two inches and a half wide. As the child was puny and delicate, before doing anything in the way of surgery I put her upon steel wine and raw beef juice for a few days. On June 29th the patient was put under the influence of the A.C.E. mixture. I then made two elliptical incisions round the tumour, and carefully dissected the growth from its bed. During the operation six large vessels were divided; but, as the bleeding points were immediately secured by Spencer Wells' torsion forceps, the hæmorrhage was slight. Having separated the skin freely from the underlying structures, the edges, which gaped a good deal, were brought together by harelip pins and intermediate sutures of silkworm gut; in all ten sutures were inserted. The wound was then dressed with iodoform gauze and wool, and the arm bound to the side. Dr. Lovegrove and Surgeon-Major Lamprey, A.M.D., kindly assisted me in the operation, which was conducted under antiseptic precautions. The case did very well, the wound healing by first intention, and all dressings were removed on the seventh day. The child has quickly gained in health and strength. The case is interesting, considering the size and position of the nævus and the youth of the patient. I think excision, under the circumstances, was the safest and speediest line of treatment; if ligatured, it would have had to be done piecemeal, a clumsy and painful method, and, from the position of the growth, injections would have been dangerous.

Hythe.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

TRAUMATIC ABSCESS OF THE BRAIN; TREPHINING; HERNIA CEREBRI; RECOVERY.

(Under the care of Mr. GEORGE LAWSON.)

THIS case is an important contribution to the series of successful operations for traumatic cerebral abscess. During the last few years there have been many cases of recovery after deep-seated abscess of the brain of a chronic character treated in a manner similar to this—by incision and subsequent drainage. In many it has been possible to give beforehand a positive opinion as to the presence and position of the abscess, and in others its position in the brain has been successfully fixed by means of exploratory punctures after the removal of bone. Mr. Lawson drew attention in this case to the following symptoms, which he considered of importance in the diagnosis: the aimless vomiting, slow pulse for a patient of this age, and the constant drowsiness. The improvement which followed the first operation was very marked, but the development of the hernia cerebri proved a serious complication, so that the patient was rather more than a year under treatment, and the various methods employed to effect a cure of it were of varying utility. Improvement, however, always followed the evacuation of any localised collection of pus, the presence of which had been indicated by pressure symptoms. After various means had been used to overcome the encephalocele, without marked success, it was partially renewed at the end of five months, then an astringent powder applied, with pressure. Afterwards the cautery was employed to remove the protuberance without hæmorrhage, and application of caustic potash was made when the hernia again grew. In a somewhat similar case under Folet, the hernia cerebri, which came on very rapidly, was punctured in several places with the thermo-cautère, but without improvement. The protruding mass, which consisted of granulation tissue only, gradually subsided and cicatrised at the end of five months. We published[1] an interesting case of hernia cerebri earlier in the year, and commented on such cases and their treatment. For the following notes we are indebted to the house-surgeon, Mr. Douglas Lawson.

H. F——, aged eight, was admitted into Pepys ward of this hospital on May 6th, 1889, with a history of having been struck on the head five weeks previously. It appeared that the patient had been struck five weeks before admission with a piece of iron at the junction of the frontal and parietal bones of the left side. He was brought to the out-patient department, where the wounds were dressed. No fracture of the skull could be detected. For two weeks before admission the patient had vomited several times without any obvious cause, and had seemed very drowsy and disinclined to play. The drowsiness increased till May 6th, five weeks after the accident, when he was admitted.

On admission, the patient complained of headache, drowsiness, and occasional vomiting. There were the scars of two scalp wounds to be seen. That on the left side at the junction of the parietal and frontal bones was three-quarters of an inch long, very tender, and adherent to the subjacent parts. The other scar was freely movable and not at all tender. Temperature 98°; pulse 60. Patient was put to bed; given liquid diet and two drachms of castor oil. The next morning he vomited twice and seemed very drowsy. Temperature 100°; pulse 64. On the following day (May 8th) he was sick in the morning; the scar over the front part of the head had opened up and discharged a quantity of thick yellow pus. There was great tenderness round the wound. There was also slight ptosis on the left side; the pupils were equally dilated and active. On May 9th the sickness had

[1] THE LANCET, April 12th, vol. i. 1890.

stopped. Bare bone was felt at the bottom of the wound. On May 12th he was again sick twice.

On the 13th he was anæsthetised. The head was shaved, and a curved incision was made by Mr. Lawson over the seat of the wound. When the flap had been reflected a yellowish-white necrosed piece of bone, which was firmly adherent to the flap, was exposed. A large trephine was applied so as to include the necrosed bone. When the dura mater was exposed only slight pulsation of the brain was noticed. The dura mater was then opened, a director passed in a forward direction, and a quantity of pus escaped. The director appeared to move freely in a large cavity, and as the abscess seemed to have been opened in its most posterior part some more bone was removed and the opening in the dura mater enlarged, a drainage-tube an inch and a half long inserted, and the wound dressed with carbolised gauze. On account of the profuse discharge it was necessary to change the dressings twice during the night.

May 14th.—Temperature 96·8°; pulse 86. The patient is perfectly conscious and intelligent; he feels better, and is not so sleepy; he has not vomited; dilatation of the left pupil and the ptosis still continue. On removing the dressings about half a drachm of pus escaped; a smaller tube was put in. Evening temperature 99·4°.

15th.—Much better; pupil still dilated. Temperature 98°; pulse 84; evening temperature normal.

17th.—Drainage-tube removed. All tenderness had disappeared, but as the ptosis continued a director was passed in and two drachms of serum let out, and a larger tube introduced. All the stitches removed, as there was slight puffiness around the wound.

18th.—Drainage-tube had been forced out, and there is considerable protrusion of pulsating brain substance. Not much ptosis. Pulse 92.

20th.—Not so well; vomited once; hernia cerebri larger; not much discharge; ptosis more marked.

21st.—Considerable discharge; pulse more irregular and intermittent; no vomiting; is getting drowsy.

22nd.—This morning patient could hardly be roused. Ptosis marked; temperature 97°, in the evening 96°; pulse irregular. During the day patient became completely unconscious, only occasionally rousing. Vomited in the evening.

23rd.—Was conscious all to-day, but became drowsy in the evening. Hernia cerebri increased in size. Very little discharge from the wound.

25th.—Hernia much larger. Temperature 97°; pulse 72, irregular.

26th.—A great deal of discharge to-day. Temperature 97·2°.

28th.—No pain or sickness. Temperature 97°; pulse 108, quicker and shorter. Ptosis is still perceptible; left pupil still dilated, but acts slightly to light.

June 1st.—No alteration in hernia. There is considerable discharge from wound. No head symptoms.

3rd.—Hernia now bleeds on the slightest touch. There is some paralysis on the opposite side of the face.

13th.—Patient has been retching occasionally for the last three days. He is very drowsy. Hernia has turned quite black, and appears to be sloughing. Pulse 60, irregular.

July 26th.—The hernia is getting covered over with lymph. Feels very well. No vomiting.

Aug. 6th.—The hernia is completely skinned over. No dressings applied.

21st.—The dimensions of the hernia are: Circumference at base, 5 in.; antero-posteriorly it measures 3 in.; laterally, 3½ in.

22nd.—Has a headache, and is frequently vomiting.

26th.—The measurement from side to side has increased half an inch since the 21st inst. Pulse 57, regular. Has not been sick for two days.

He went on in much the same way till Sept. 10th, when an anæsthetic was administered. Mr. Lawson probed round the hernia to the depth of 1½ in., and pus flowed out. The probe was re-inserted at two different places to the depth of 2 in., and each time pus oozed out. The hernia was then laid open for half an inch and a tube put in.

Sept. 11th.—Temperature 100°.

12th.—Temperature 99°.

30th.—Still discharging freely.

Oct. 11th.—As the hernia still remained the same size, Mr. Lawson to-day shaved off a portion, but owing to its vascularity could do no more. A powder, consisting of tannin two parts and iodoform one part, was dusted over the hernia and pressure applied with a pad of boric lint.

31st.—Patient has had no ill effects from the last operation, which, together with the pressure, has only slightly altered the shape of the protrusion.

Nov. 3rd.—Patient has shown signs of compression during the last three days. Has vomited several times. An anæsthetic was administered, the skin over the hernia was reflected, and the tumour burnt through with a Paquelin's cautery. It was found to consist of granulation tissue and a small quantity of apparently healthy cerebral tissue. A director was passed downwards and inwards, and pus flowed freely. The cautery was then applied on a level with the skull, and the tumour again burnt through. There was some hæmorrhage, which was controlled with persulphate of iron and pressure.

4th.—Had a fair night, but the hernia has increased to the size of a walnut. No vomiting. Temperature 97°; pulse 76 (more regular).

5th.—Tumour the size of a Tangerine orange. No vomiting or pain. Temperature 98°; pulse 80.

25th.—A large slough was removed to-day. Hernia no larger and pulsation less evident.

29th.—From this date the hernia was painted every day with caustic potash, and after two minutes this was neutralised with acetic acid.

Dec. 5th.—The hernia is slowly decreasing in size.

16th.—The hernia now projects only ¼ in. above the scalp.

Jan. 2nd, 1890.—The hernia is healing from the edges. There is still a considerable quantity of pus in the dressings.

10th.—Pus is being discharged from a point at the upper and inner edge of the hernia.

14th.—Hernia more prominent.

30th.—This morning there is a profuse discharge of pus.

Feb. 12th.—Pus still escapes from a point at the upper and inner edge. This afternoon the patient was anæsthetised, and a probe passed through this opening slipped into a large abscess cavity to a depth of 2½ in. The sinus was enlarged with a probe-pointed bistoury, and about an ounce of pus evacuated, and a tube inserted.

13th.—He slept well last night. Since 10 A.M. this morning he has been constantly crying. He does not answer when spoken to. Pupils dilated and equal. Vomited twice. He had twitchings of both eyelids and the right hand, arm, and forearm for several minutes, and the eyes were turned to the right. He vomited twice, and became quite unconscious. The drainage-tube was removed. The discharge in the dressings is very foul. Temperature 102°; pulse 144.

14th.—Quite conscious this morning.

15th.—Sinus quite open. A quantity of discharge to-day, not foul. The hernia is rapidly increasing in size.

17th.—Sinus does not admit a probe to-day.

21st.—Is now dressed with caustic potash as before the operation.

The hernia gradually decreased in size until it was quite flush with the skull. On May 9th the patient left the hospital with an ulcer the size of a sixpenny-piece where the hernia had been. He went to Eastbourne. Three weeks later, when he returned, the hernia was seen to be completely and firmly covered over. Pulsation can still be seen to some extent in the scar, and the edges of the trephine opening can be indistinctly felt. The patient wears a gutta-percha cap over the scar to protect it.

LIVERPOOL NORTHERN HOSPITAL.

A CASE OF POISONING BY CHLORODYNE; RECOVERY: REMARKS.

(Under the care of Dr. DICKINSON.)

CASES of poisoning by opium or some of the preparations made from that drug or its alkaloid are not very uncommon in the practice of our larger hospitals. The following is a good example, and one of considerable severity of symptoms, of poisoning by chlorodyne, and Mr. Mothersole considers that there were sixteen grains of morphia in the quantity taken. There are few cases which illustrate better the faulty condition of a law that permits a man to have in his house such a large amount of deadly poison, the dangerous character of which could hardly be known to him, or more care would have been taken to guard against accidents. For the account of this case we are indebted to Mr. Mothersole, house surgeon.

A. B——, a stout, flabby, licensed victualler of fifty, was admitted to the Liverpool Northern Hospital at 4 P.M. Two hours previously when under the influence of alcohol he had taken the contents of a four-ounce bottle of chlorodyne, equal to sixteen grains of morphia. On admission he was livid and comatose, respiration short, stertorous, and at long intervals, pulse slow and full, and pupils contracted. Zinc sulphate and apomorphia had been given without effect. A stiff tube was at once passed, and the stomach well washed out by the syphon. Some hot coffee was then introduced by the same channel. A powerful faradaic current was then applied, and soon had the effect of partially rousing him and improving respiration and colour, but as soon as this was discontinued lividity returned. Mustard plasters were applied to the chest and soles of the feet. After a time the battery appeared to lose its effect, but smacking the chest was of good service. As he did not improve the cold douche was applied to his face, with instantaneous effect, and he was soon able to be propped up with his feet over the edge of the bed. As the douche was found inconvenient of application in this position, a Higginson's syringe was used, and cold water squirted at intervals on to his mouth and nostrils. This seemed to annoy him much. He was persuaded to stand up and to try to walk, but after a dozen steps would relapse into unconsciousness and lividity. The same result would follow any intermission of stimulation for more than a few seconds. Several hypodermic injections of atropine, ether, and strychnia were given between 4 and 8 P.M; also sal volatile by the mouth. At about 8 P.M. he became more sensible, and could give an account of his mishap. From this time, although constantly dropping off to sleep, he could easily be aroused. He was kept awake, walking a little at intervals, till 6 A.M., when he was allowed to go to bed. At 11 A.M. he walked out of the hospital perfectly well.

Remarks by Mr. MOTHERSOLE.—I should like to make a few remarks as to the treatment of this and similar cases. Apart from the administration of physiological antidotes, its *rationale* is to maintain respiration and circulation until the effects of the poison pass off. This is best attained by means calculated to restore consciousness; in the case described it was remarkable how the patient's respiration and colour improved whenever he showed any sign of sensibility. The prospect of saving life depends mainly upon the stock of irritability at our command and the means we possess of exciting it. It is desirable to have a variety of stimuli, so as to alternate them, in order that their effects may be less likely to wear off. They should not be applied more vigorously than necessary, lest irritability be exhausted. At the same time internal stimulants are valuable in maintaining and increasing irritability. A most potent stimulus, and one always ready at hand, is the cold douche. The method of its application is worth attention. A large volume of water is by no means necessary. The force and suddenness of the jet and the locality to which it is applied are of far more importance. For efficiency and convenience a Higginson's syringe is an excellent weapon. And the most responsive places are the mouth and nostrils. It is almost universally recommended that these cases should be treated by "walking them about." I may be pardoned for holding rather strong opinions on the subject since seeing the disgusting spectacle of a patient, whose legs were utterly unable to support him, dragged about between two stalwart men. What is the object of this treatment? It depends, no doubt, on the fact that so long as the patient is able to walk about he is in no danger of dying, for he must be more or less conscious. But does this movement give much assistance in maintaining consciousness? How often does the patient, as in the case described, relapse into insensibility while being "walked about," even when the contact of his feet with the ground derives an additional potency from the presence of mustard plasters on his soles. In cases of real danger the act of walking affords little if any stimulus, and it must be terribly exhausting when kept up for any length of time. In this way it may help to account for some cases of relapse and death. I would venture with all humility to suggest that it is far better to keep the patient sitting in a chair, consciousness being maintained by repeated irritation. In the worst cases the endeavour should be made to keep the patient alive by artificial respiration.

Reviews and Notices of Books.

A Dictionary of Practical Medicine. By Various Writers. Edited by JAMES KINGSTON FOWLER, M.A., M.D., F.R.C.P., Senior Assistant Physician to the Middlesex Hospital and Lecturer on Pathological Anatomy in the Medical School; Senior Assistant Physician to the Hospital for Consumption and Diseases of the Chest, Brompton. London: J. & A. Churchill. 1890.

THERE are two kinds of medical works which move on different planes as it were. One is mainly and primarily intended for students, the other for practitioners. The student is thinking probably of examinations looming in the near future. He wants the latest science, the most advanced pathology, and a theory of disease that will embrace the largest number of principles, facts, and observations, and present them in a clear light. The practitioner wants this too, but he is willing to sacrifice theory and style for information presented in a brief, terse way and with a practical aim, arranged clearly for facility of reference. It is difficult, but not impossible, to combine the two objects; but it is not an easy task to work up and edit a dictionary of practical medicine where the various articles are contributed by different writers. Differences of view and variety in method of treatment are of less importance than a certain amount of consistency and continuity of conception and arrangement. There is a style of article, however, to be met with in dictionaries of medicine that is peculiarly irritating. The reader turns to it only to find that it tells him all he knows already, but nothing at all, or next to nothing, on those particular points about which he is seeking information. Such articles may possibly be well abreast with the knowledge of the time, and, apart from a certain kind of diffuseness of style, may be well written by an expert even on the particular subject in hand, but they serve rather to advertise the authors than to impart instruction to their readers. Now, this Dictionary of Practical Medicine, which includes also the Diseases peculiar to Women, is not of that sort. If we turn to the list of contributors the names are those of competent men, and some of them eminently so. What the writers know they tell simply and plainly, and generally manage to put it into a short compass; and, what is more, the treatment that is recommended is clearly and succinctly set forth. The contributions are generally signed by their authors, and the greater number of those unsigned are by Dr. John Abercrombie and the editor, Dr. James Kingston Fowler. The dictionary consists of 942 pages of double column, and is furnished with a general index, including a list of articles, with cross references. So far for our general remarks on this volume; and now to consider it somewhat more in detail.

The first paper, on Abdominal Tumours, by Dr. Sidney

Coupland, is an excellent analysis of our information on the subject, and puts the various points connected with their diagnosis in a clear and helpful way. Adverting for a moment to malignant disease of the peritoneum, we may briefly allude to the curious appearance, which we do not remember to have seen elsewhere mentioned, occasionally presented in fatal cases of cancer of the omentum attended with peritonitis and effusion (ascites). In a case of this kind the whole of the front surface of the bowels was found on post-mortem examination to be covered with a growth resembling a large spider's web composed of threads of varying thickness, from a coarse band to the finest and most delicate thread. The explanation of this condition appeared to be that cancerous peritonitis, having been set up, was followed by a fluid effusion, which gradually stretched, as it accumulated, the adhesions that had taken place. The patient died not long after paracentesis had been performed, by which the tension on the stretched and attenuated adhesions was removed, with the appearance mentioned as the result. Dr. Coupland contributes other articles also — notably on Anæmia (local, general, and pernicious), Chlorosis, and allied subjects, and a good practical one on Intestinal Obstruction. Dr. W. H. Hadden gives a short and interesting account of the rare affection known as Acromegaly, to which attention has been more generally attracted since the date of Marie's first paper in the *Revue de Médecine*, April, 1886. This is followed by a brief but interesting notice of Actinomycosis, by Dr. T. D. Acland; and one on Addison's Disease, by Dr. John Abercrombie. Dr. W. H. Hadden also contributes other subjects — on Locomotor Ataxia, for example. They are all of good quality. Dr. Robert Maguire has several excellent articles in this Dictionary—the first on Albuminuria, followed by others on Bright's Disease, Diabetes, and Glycosuria. Dr. Percy Kidd's contribution on Angina Pectoris is a good sample of a brief, practical kind. The various contributions by the editor, Dr. J. Kingston Fowler, are to be much commended: On Auscultation of the Heart and Lungs, Phthisis (an admirable and fairly well-known article with many practical points and original observations). Those on Diseases of the Brain and Nervous System, by Dr. C. E. Beevor, strike us as very good. Dr. E. Clifford Beale has managed to put a large amount of useful information on Climate and Health Resorts within a very short compass, and the same may be said of Disinfection by Dr. C. E. Shelly. In the article on Dysentery we do not see any allusion to the use of sulphate of magnesia in repeated doses as a treatment for this disease in an early stage of its acute form. The articles on Diarrhœa by Dr. Dawson Williams are judicious and sound. We think, by the way, that milk as a diet in chronic tropical diarrhœa, although an essential part of treatment, is occasionally pushed too far, and that underdone meat in small quantities might be provisionally and tentatively tried at an earlier date than is at present the practice with some physicians. Dr. G. E. Herman contributes several interesting articles on gynæcological subjects, and most of the dermatological subjects are ably treated by Dr. J. J. Pringle. Dr. Donald MacAlister has a thoughtful and useful paper on Fever. Dr. Percy Kidd is the writer of several good articles, of which that on Hæmoptysis may be taken as a sample. The principal objects to be aimed at in the treatment of hæmoptysis are the reduction of the blood-pressure and slowing of the circulation in the pulmonary artery. Complete rest, the use of ice, avoidance of stimulants, a hypodermic injection of morphia, followed by saline purgatives in combination with mineral acids, form perhaps about the best treatment. Digitalis, which is still frequently used, slows the circulation, but increases the blood-pressure. To the same writer we are indebted for contributions on the Heart and its Diseases, some of which are specially well done. The article on Typhoid Fever by Dr. William Cayley is admirable, as well for the lucidity with which the subject is handled as for the erudition displayed by the writer. It is, however, impossible within the limits of space at our disposal to direct attention to even one-tenth of the pages we had marked for reference. Where there is so much that is excellent selection becomes exceedingly difficult. Let it suffice that we can heartily congratulate the editor and his colleagues on having admirably fulfilled their purpose — viz., to produce a first-rate Dictionary of Medicine—at once scientific and practical—which will well deserve the success we have no doubt it will meet with.

A Text-book on Diseases of the Eye. By HENRY D. NOYES, A.M., M.D., Professor of Ophthalmology and Otology in Bellevue Hospital Medical College. Illustrated by 6 Chromo-lithographic Plates, 5 Plates in black, and 236 Wood Engravings. New York: Wm. Wood & Co. 1890.

THIS work is the largest and most ambitious treatise on the diseases of the eye that has hitherto been published in America. It has many claims to attention. It is very full and complete, embracing the whole of ophthalmology, with its modern developments, and presents the opinions of a writer who has had large experience, is a master of his subject, and who is accustomed to teach. It is excellently got up, is well printed, and contains many illustrations both in the form of woodcuts and chromo-lithographs, some of which are original. It may therefore be regarded as representative of the present state of ophthalmological knowledge in America. As amongst many good points, it has some faults which are obvious and superficial, we shall dismiss these in a few lines.

In the first place, the style in which Dr. Noyes has written his text-book stands greatly in need of revision. Many sentences are awkwardly expressed, and read like a translation from German. Some passages require to be read and re-read to render them intelligible. We have marked many such passages, and the following is one (page 152). Speaking of the Argyll-Robertson symptom, the author says: "The intimate relation of the upper part of the spinal cord to the pupil is also evident in the control of the cilio-spinal centre, which is located about the seventh vertebra, over contraction of the pupil, by paresis of the sympathetic fibres which control the bloodvessels of the iris." Here is another. Speaking of the iris, he remarks: "It is continuous with the ciliary body and choroid, which unite with it to form the vascular tissue, called as a whole the uvea. It and they are supplied by the same nerves, and morbid action often, if not generally, affects the whole to a greater or less degree, beginning at one part and going from behind forward, or beginning at another and going from before backward."

Dr. Noyes prefers words of Latin to those of Saxon origin, and writes on surgery in Johnsonese. "Located," in the above passage, for example, instead of "situated"; "diagnosticated," instead of "diagnosed"; "to antidote" instead of "to destroy"; "formulated by," instead of "recommended by"; "involvement" instead of "implication"; "unravelling functional disorders," "extremely plenty," and "much the same"; numberless others might be mentioned which strike the eye of an English reader, but which perhaps are Americanisms, indicating only the natural changes of the English language in that nation. Many sentences are slovenly constructed. For example, under the head of "Purulent Conjunctivitis," we find: "Should the ulcer be central and not too large, so that if it perforate and the sphincter iridis cannot be drawn into the

opening, the lens will then come forward and rest in contact with the posterior surface of the cornea."

We append a few of the typographical errors we have noted, which are not numerous: At p. 130, "acton" for "action"; p. 144, "Striæ cornea" for "corneæ"; p. 147, "adlitus" for "aditus"; p. 272, "Lawrence" for "Laurence"; p. 685, "Prescott Hewitt" for "Prescott Hewett"; p. 348, "Schiolz" for "Schiotz"; and on p. 387, "Schioltz" for "Schiotz"; p. 726, "Schreiner's test" for "Scheiner's test"; p. 72, the expression $\frac{1}{24}+\frac{1}{16}=\frac{3+3}{48}$ is incorrect. Figs. 64 to 69 are, we suppose, *clichés* from Obersteiner's work, but as they are important diagrams they might with advantage have been re-cut, when the references might have been greatly simplified. It is very fatiguing, both to the eye and to the mind of a student, to discover in the cut a particular letter or letters mentioned in the legend, and still more troublesome to find the reference letter or letters in the legend below when found in the cut. Moreover, the the letters *Sbpp* and *Slpp* and *Focp* and *Brgp* and *Sgl* and the like scarcely suggest the parts of which they sometimes do, and sometimes do not, form the initials. The introduction of figures into the cut or the arrangement of the letters, if these are used, in alphabetical order would certainly facilitate the discovery of the particular spots referred to.

Having made these remarks in disparagement of Dr. Noyes' work we are bound to say it represents very well the present state of our knowledge. Several chapters are devoted to what may be termed the "principia of ophthalmology," including the general anatomy of the globe, the general physiology of the eye, the mode in which it should be examined, the ophthalmoscope glasses, accommodation, refraction, and binocular vision. These, with chapters on Strabismus and Asthenopia, constitute the first part of the work. The second part is devoted to the diseases of the eye, arranged topographically, concluding with short chapters on the use of artificial eyes and upon the statistics of eye diseases. An additional chapter might have been added with advantage giving the regulations required by the Army and Navy boards for admission into their respective services. Amongst the points we have found worthy of notice in reading through Dr. Noyes' treatise are the following. In the treatment of the redundant granular masses left in chronic trachoma he considers we may most happily relieve the patient by squeezing the lymphoid infiltration out with suitable forceps. He places the patient on his back, uses two pairs of forceps, one in each hand, which are elongated, spoon-shaped at their extremities, and bent nearly to a right angle with the limbs. Then, having thoroughly cocainised the surface by pledget of cotton soaked in 10 per cent. solution, he everts the lid, and, holding one end of the tarsus with one forceps and applying the other, pulls against the first, thus squeezing and stripping out the granules. The section on Muscular Asthenopia, with the account of the metre angle and the employment of prisms, is superior to that of any other book on the subject we have read. Dr. Noyes was, we believe, one of a committee which was appointed several years ago in America to consider the advisability of employing some common and definite signs to indicate the power of prisms. His attention has therefore been specially directed to this department of ophthalmoscopy, and we have here in a condensed form the results at which he and his coadjutors arrived. The subjects of strabismus and of muscular advancement or readjustment of the tendons of the recti when deviation has followed tenotomy are well treated, and these sections contain an excellent account of the various methods that have been proposed for the after-treatment.

The subject of iritis is fairly given, but we cannot agree with Dr. Noyes in his statement that "the essential and master remedy in iritis is sol. atropiæ sulphatis; it is the beginning, middle, and end." Such a statement is apt to mislead a practitioner, and to induce him to neglect other remedies. Indeed, as we read on we find that leeches, and the hypodermic injection of morphia and mercury are, as exceptional measures, recommended; but it is clear that Dr. Noyes relies almost entirely on the action of atropine. He thinks the prevailing fault is to use it with too much caution. He states truly enough that its potency when the iris is inflamed is far less than when the eye is normal, and hence increases the strength of the solution and the frequency with which it is instilled till he is restrained only by the appearance of its toxic effects. He speaks of dryness and redness of the throat as a condition not to be regarded as dangerous, "but when a flushed face, a quick and feeble pulse, nausea, prostration, and fainting appear, and when, as sometimes occurs, delirium, at first talkative, afterwards with delusions and violence, shows itself, the situation is sufficiently alarming." We should think it was; and the moral seems to be not to apply atropine solutions of such dangerous strength. Whilst fully conceding that great importance is to be attached to the instillation of a solution of atropine, we hold that a strength of three or four grains per ounce will accomplish all that is desired, and that when such a dose fails to act, the congested condition of the vessels of the iris, which prevents the iris from responding to the action of the atropine, should be reduced by the prompt application of leeches to the temple, the bleeding being maintained by hot fomentations, by purgatives, and by the administration of mercury with or without quinine.

In discussing the treatment of soft cataract, Dr. Noyes observes that the period required for absorption after needling "varies considerably—say, from three to twelve months. Several operations may be required, and the intervals ought not to be less than three months." We venture to think that in stating three months he gives a much longer time than is really requisite. In a very large proportion of cases the introduction of a broad needle into the lens substance a fortnight after free discission will allow the greater portion of its softened substance to escape, and a repetition of this little operation a fortnight later will remove the rest of it. We should consider from two to three months for the two eyes operated on successively a reasonable time.

We are astonished to read that "extraction without iridectomy is more difficult, and involves more violence to the eye than with iridectomy." Such a sentence can only have been written by one who is prejudiced in favour of the operation with iridectomy, and who has had little experience of extraction without iridectomy. Surely the stretching of the iris which sometimes, though not invariably, occurs is less severe proceeding than excision of a part of its substance with the liability to hæmorrhage, and at least an equal liability to prolapse of the iris and to the formation of opaque capsule, involving the necessity of needling. The merit of introducing glass balls as a substitute for the vitreous in globes from which the contents have been removed, with a view to obtain better stumps for artificial eyes, is due to Dr. Mules, and not to Mr. Snell.

Notwithstanding the strictures we have made, it must be acknowledged that Dr. Noyes' treatise is an important and valuable contribution to existing ophthalmological literature, and with some attention to literary style may in a future edition take its place amongst the best general treatises on the subject.

Ueber Bakteriologische Forschung. By R. KOCH. Berlin: August Hirschwald. 1890.

IN this address, delivered before the members of the Tenth International Medical Congress held in Berlin at the first general meeting, August 4th, 1890, Koch states very clearly and very distinctly the present position of the questions that have to be answered concerning the morphological and pathogenic characters of bacteria and the therapeutic and hygienic treatment of those diseases in which bacteria are said to be the causal agents; and it will well repay those who have got confused in the reading of numerous and contradictory papers by minor lights to read carefully and calmly the moderate statement of definite opinions of a master bacteriologist; of one who has studied bacteria, not perhaps so fully from the morphological standpoint, but most thoroughly from their relation to hygienic and pathological and pathogenic problems; of one who records no slipshod observations, no hastily drawn conclusions, and who takes up no position that is not carefully selected and then strongly entrenched and fortified.

It is interesting to note, in the first place, that Koch does not believe in the doctrine of pleomorphism as usually applied to bacteria. He is very definite on this point, and, in illustration of his meaning, he goes so far as to indicate that the organisms found in fowl tuberculosis must be looked upon as different from those of ordinary tuberculosis, so different, indeed, as to justify him in identifying it as a definite species; for although it is stained much as is the ordinary tubercle bacillus, it presents certain microscopical differences and certain differences under cultivation, the latter of which Koch has only recently been able to distinguish. He thinks that, as we have been able to establish the causal relations of micro-organisms to certain infective diseases, such as anthrax, tuberculosis, erysipelas, tetanus, and several others—all diseases which can be communicable to animals,—it is now almost justifiable to assume that in those cases in which parasites are met with in particular diseases, and under conditions similar to those in which the association of the causal bacterium and the disease have been definitely proved, it is scarcely necessary that the final proof by inoculative infection of man should be forthcoming. He further points out that with all the new developments and methods, and improvements of optical apparatus, it is still impossible to find organisms that stand in any causal relation to such diseases, measles, scarlet fever, small-pox, and the other exanthemata, and with the faith of one who has worked conscientiously, and one who has faith in his principles, Koch is convinced that the cause of these diseases will be found, not in ordinary bacteria probably, but in correspondingly low organisms of the animal kingdom, a conviction that has gained ground considerably since the recent observations on malaria.

Pointing to the work that has already been done in connexion with the improvement of water-supply, in ventilation, in the examination of the conditions of sewers, with the knowledge of the progress of Asiatic cholera, and of the first stages of pulmonary tuberculosis, Koch speaks most hopefully of what may be done in future. He holds that the results already obtained, though small in themselves, give much promise for the future, and he looks forward to a time when, by the adoption of prophylactic measures, it will be possible to check the advance of the more rapidly developing infective diseases, and when by means of therapeutic agents we shall be able either so to diminish the vitality of the organisms that cause such conditions as leprosy, tuberculosis, and other slowly developing diseases, or to render the tissues of the host better able to withstand the attack of the micro-organism, especially if the micro-organism can in turn be attacked from without, that artial or complete cure may be looked for. He anticipates that in bacteria or in the lower protozoa will be found the causes of all exanthematous disease, and that these may be attacked in a similar manner.

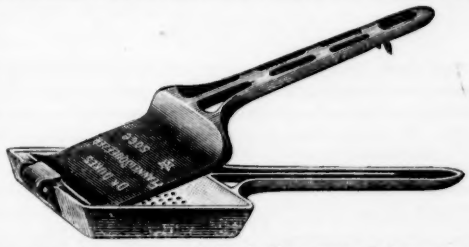
His statement, which will make the Congress memorable in the history of all Medical Congresses, that he has found the substance by means of which the tubercle bacillus can be rendered inert, not only when growing on artificial media, but also when developing in guinea-pigs, goes far to remove the reproach that has been advanced against bacteriologists that there is no practical outcome, in the domain of therapeutics, from all their work and experiments; especially when his announcement is taken in connexion with the publication by French observers of a method of preventive inoculation against tubercle, of which, doubtless, more will, ere long, be heard.

That bacteriology in its later developments should have such an exponent as Koch, so cautious but still so hopeful, gives good promise for future hygienic and therapeutic treatment of infective disease, and the plain unvarnished tale as presented at the Berlin Medical Congress, and reproduced in the little pamphlet before us, may be read with advantage by all, especially by "unbelievers."

New Inventions.

NEW FLANNEL SQUEEZER.

THE illustration represents an appliance in enamelled iron made for me by Messrs. Clarke, Shakspere Works, Wolverhampton, which I fancy will be found useful, more especially in hospitals, for compressing hot flannel before application, without any risk of burning the nurse's fingers. The flannel to be used should be folded so as to fit into the



squeezer when open, and the boiling water being poured over the flannel till saturated, the squeezer is closed and compressed till the water with which the flannel is charged ceases to drip, when the appliance, with stupe enclosed, can be brought to the bedside and applied to the patient. The simplicity of the idea may recommend it.

Dublin. ALEX. DUKE, F.C.P.I. &c.

A NEW DILATOR.

THE accompanying illustration represents an instrument devised by Dr. W. Duncan, of Savannah, Georgia, for dilatation of the urethra or cervix uteri, either by gradual process or immediately, and is not offered as a substitute for, or improvement upon, any appliance now in general use, but as an adjunct to the armamentarium of the surgeon, useful under certain conditions. In its general shape and appearance, the instrument, when closed, resembles an ordinary No. 10 sound, consisting of hard metal, hollow or tubular throughout the greater part of its extent, and solid only near the distal end, to which pieces of varying length and shape may be attached as desired, which are also represented in the illustration. Within the hollow or tubular portion is contained a central metallic rod attached near

the dilating portion of the instrument to another rod, the action of which latter is not rotatory, but by a screw-like union may be alternately raised or lowered by the rotation of the upper rod. At the proximal end of the upper rod is situated the thumb-screw, lever, or wheel, by the revolving of which the rod is raised or lowered at pleasure and the dilating portion acted upon, while the amount of dilatation may be regulated and determined accurately by the index, similar to that of Otis's urethrometer or urethrotome, arranged according to the scale adopted in determining the size of catheters and sounds in general use. The dilating portion of the instrument is situated near the distal end, is embraced within a space of about two inches and a half longitudinally, and consists of four metallic pieces, as though the instrument were divided in its longitudinal axis into four equal parts to that extent. At either end of each of these four pieces are attached shorter metallic pieces of varying length, with movable or hinge-like attachments, so as to permit the free and full operation of the larger pieces, which latter are again united by their inner surfaces to the lower central rod, by the upward or downward movement of which the dilating portion can be acted upon at pleasure. Fig. 1 represents the instrument closed; Fig. 2 represents the dilating part carried to its fullest capacity. The rubber tubing or covering also shown in the illustration should always be placed over the dilating portion of the instrument, and is designed to prevent pinching or injury to the tissues in reversing the action of the instrument after dilatation shall have been effected or attempted. The large handle secures a firm and steady hold, and is movable, so as to render the whole apparatus more compact and portable.

Fig 1.

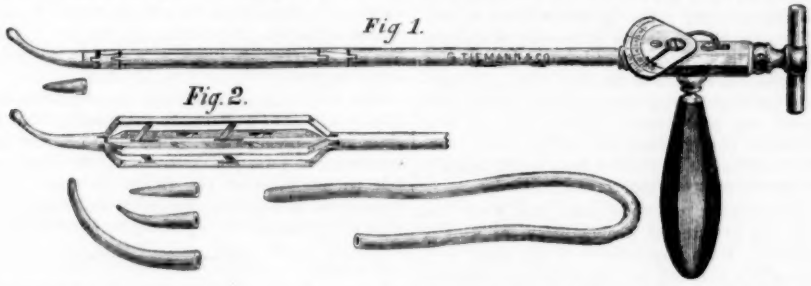


Fig. 2.

This very ingenious instrument will be principally of use in the treatment of urethral contractions, but may prove of value in the dilatation of the uterine canal to admit of digital examination of the interior of the uterus; also its action as a dilator is special in the production of a uniform expansion, which can be accurately regulated and measured. Messrs. George Tiemann and Co. of New York are the makers of the instrument.

INDIA IN 1888.

THE annual statement concerning the moral and material progress of India, which has just been issued, represents the condition of affairs in our great dependency in a favourable light. It appears that in Burmah, the latest addition to that continental territory, the effects of the recent war are gradually wearing off, and the newly established police is slowly becoming efficient. The Burmese are in many respects a highly interesting people, and give promise of no small capacity for receiving and profiting by the impulse of European influences, and it may be hoped that when the settlement of the country has been thoroughly accomplished it will embark upon a prosperous career. Among the most interesting passages of the present statement are those in which the growth of municipal institutions in India is sketched. There, as elsewhere, the most abundant manifestations of corporate life are to be sought in the midst of the great urban populations. It is noteworthy that the attention of the local boards is mainly given to questions of public health. It could hardly, perhaps, be otherwise. The dangers and inconveniences which beset the aggregation of large masses of people into towns are such as become aggravated into their worst forms in a country like India. The difficulty of procuring a sufficient water-supply, for instance, and the problem of disposing of sewage are eminently of this character. In the great Indian towns these matters are of such pressing importance, and stand so much in need of attention, as to be uppermost in the thoughts of all persons who address their minds to the consideration of the questions of Indian local government. It is not surprising, therefore, that they should receive the first attention of the municipal bodies, which have been largely chosen by the inhabitants from among themselves for the purpose of administering their municipal affairs. It is not, however, upon these points alone that the attention of the Indian municipalities is concentrated. Sanitary measures of other kinds, and in particular the diffusion of the benefits of vaccination, are objects of solicitude no less than those which have been already particularised. Ten towns in Bengal and a few in other provinces have, we understand, during the past year voted the extension to themselves of the Compulsory Vaccination Act. This enlightened course has, no doubt, been in large measure promoted by the striking object lesson which is presented to the eyes of Indians by the practical immunity which Calcutta and Madras enjoy from the scourge of small-pox. In the former two deaths only, and in the latter no more than thirty-six, were attributable to this disease during last year. It is hardly necessary to add that in both these centres of population the practice of vaccination has been systematically carried on for many years past. With such an example of the benefits of the prophylaxis, Indian citizens may well be expected to set a more adequate value upon the means of protection which vaccination affords than is done by some less enlightened people among ourselves.

Another very important development of municipal life in India is the creation and enlargement of hospital accommodation. This is an improvement for which the people are in no small measure indebted to the missionary societies and their agents. The growth of hospitals has indeed everywhere and always been very intimately associated with Christian enterprise. It is not, however, only to the churches that the population of India now look for the provision of this form of relief. On the contrary, private charity is learning the value of such an institution, and is being enlisted for the work of its extension, and a noteworthy contribution to the special provision for the hospital treatment of women and children is made by the association recently founded to promote this object by the Countess of Dufferin.

Upon a whole review, then, it appears that the recent sanitary history of India may be regarded as satisfactory, and not alone in respect of work accomplished, but also in respect of the awakening of interest in the mind of the Indian peoples in sanitary questions. For the public health much may be done by legislation if the people can be induced to coöperate with the Government and take advantage of the facilities which are placed within their reach; but in all backward communities it has been found that the most serious obstacle to improved sanitation is met with not in the material problems presented for solution—serious as these may be and generally are,—but in the supineness and bad habits of people unaccustomed to those amenities which are in more favoured communities taken for granted as being prime necessaries of life.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 27, 1890.

MEDICAL OFFICERS OF HEALTH AND RECENT LEGISLATION.

TWO circular letters have been issued by the Local Government Board dealing with matters which materially affect the duties and obligations of medical officers of health. The first relates to the Infectious Disease (Prevention) Act, 1890, and is primarily addressed to London sanitary authorities, because the Act comes into operation in all metropolitan districts, and in Woolwich, at the beginning of December next; but its provisions also extend "to any urban or rural sanitary district after the adoption thereof," and hence the bearings of this piece of legislation have a much wider scope than appears, if the London circular is alone taken into consideration.

The circular draws attention to the fact that increased powers have been granted, in addition to other minor points, as to five important matters involved in sanitary administration. The first is as to the inspection of dairies, and the prohibition of the supply of milk therefrom in cases where it appears that infectious disease is attributable to, or likely to be caused by, the consumption of milk so supplied. Under Section 4 of the Act, power is given to medical officers of health who are in possession of evidence that any person in their district is suffering from an infectious disease attributable to milk to visit and inspect the dairy from which such milk is derived, whether the dairy be within or without their district, and, if accompanied by a veterinary surgery, also to inspect the animals in the dairy. And, subject to an appeal by the dairy owner within twenty-four hours, the local authority of the district where the disease has appeared may make an order forbidding the sale of the milk in question within their jurisdiction. Various incidental interests are safeguarded under the section; but it contains one considerable defect which would probably have been remedied had it not been feared that opposition, based on class interests, would have prevented the passing of the Act. It is that the prohibition to sell the infected milk applies only to the one district the medical officer of health for which has taken the action indicated; and it will be obvious that, in the case of an Act applying primarily to London, which is supplied by dairies having dealings with a number of separate sanitary districts, the dairy people will, without any breach of this Act, be entitled, when withdrawing the inculpated milk from one area, to deliver it to consumers in another. The defect is at once so serious and so obvious that we can only hope that it will soon be amended; and that in the meantime such full publicity as would not otherwise have been needed, and as will suffice to put other authorities on their guard, will always be given to any proceedings taken under this section.

The second matter relates to the cleansing and disinfection of premises and articles, the public conveyance of infected corpses, and the deposit of infected rubbish. One great drawback connected with our laws as to disinfection has hitherto lain in the delay which has occurred where the ordinary statutory notices to occupiers has had to be given before any proper action could be taken by the authorities. This is now largely remedied. The notice which will now go out under Section 5 of the new Act takes it practically for granted that the authority, and not the occupier, will do the work; and unless the occupier satisfies the authority within twenty-four hours that he will perform it to the satisfaction of the medical officer of health, the work will be done by the sanitary officers. And, in cases where the authority are of opinion that the owner cannot effectually disinfect and cleanse the premises in question, they may at once, with the consent of the owner or occupier, proceed to the work, and this at the cost of the authority. In this way, saving of valuable time will be effected, instead of loss of time involved in formal proceedings under former statutes. There is also a provision to the effect that when such work compels a family to leave their dwelling, the authority are to provide the family with adequate means of temporary shelter and the necessary attendants, free of cost. A penalty is further imposed upon people who have had infectious disease if they, within six weeks, vacate their premises without having them disinfected to the satisfaction of the medical officer of health, or without having given notice of the illness to the owner. Similarly, a fine is imposed for the hiring or use of any conveyance, other than a hearse, for the purpose of carrying a body of any person who has died of an infectious disease, unless the fact be previously notified; and provision is also made for the disinfection of the conveyance. There is further a control over the casting of infectious matters into ashpits, tubs, &c., without previous disinfection.

A third point relates to the dealing with dead bodies. Thus, except under medical authority, the body of a person who has died of an infectious disease may not be detained for more than forty-eight hours anywhere except in a mortuary or room not at the time occupied by the living; such bodies may also be retained in infectious hospitals until burial. In the fourth place, speedy burial can now be expeditiously enforced where necessary. And under another clause patients suffering from an infectious disease may be detained in hospital except under certain conditions which are imposed with a view to public safety. The provisions of this Act are obviously of considerable value, and we anticipate a somewhat wide extension of them to provincial sanitary districts.

The second Circular we have referred to deals with the Customs and Inland Revenue Act 1890, under which certain new duties devolve on medical officers of health. The assessment to inhabited house duty is, under the Act, to be discharged in the case of houses built or adapted to be let into separate dwellings at a rate not exceeding 7*s.* 6*d.* a week; but this discharge is conditional on the house being certified by the medical officer of health to be fit for the accommodation of the families inhabiting it, and to be otherwise in a proper sanitary state. The Act requires the medical officer of health, on the request of the person who would be liable to pay the duty, to examine the house and certify accordingly. So far there is no objection. But it appears whilst the Act makes this definite requirement it neither empowers the medical officer

of health to charge a fee for his certificate, nor is he entitled to any remuneration for the discharge of this newly imposed duty beyond his salary as medical officer of health. It is true that the Local Government Board in their circular point out to sanitary authorities that, in cases where the remuneration of the medical officer of health is subject to the Board's approval, they will be prepared to assent to a reasonable increase in the remuneration, in view of the requirements of the Act under consideration; and it is further suggested that if authorities think that the duties already devolving on the health officer are sufficiently onerous, they may appoint and pay some other medical practitioner to perform the duties in question. But we very much fear that mere advice of this sort in a Circular will never outweigh the fact that the duty is one which under the Act may be cast on the health officer without special remuneration; besides which it is well known that sanitary authorities, instead of increasing salaries, are in many cases reducing them, and this to an extent that, had it only been known in advance, would have prevented many who have given their lives and abilities to public health work from ever entering that service. The salaries now awarded to health officers were settled with reference to duties defined under a Government Order, and which did not include any such obligation as that under consideration; and the present tendency definitely to impose new duties without as definitely assigning increased remuneration is one much to be deprecated.

THE importance of climatology is gradually becoming recognised. No one can doubt that of the many factors which contribute to help or hinder physical well-being a very large share must be attributed to climate, understood in its widest sense—i.e., to those conditions of atmosphere and soil which are constantly operating upon us by day and by night. The air we breathe, its temperature, humidity, pressure, and purity, the amount of sunshine we receive, the character of the winds to which we are exposed, the nature of the soil on which we reside—all these factors have a potent influence upon the organism in health, and still more potent influence upon it in its more unstable and sensitive condition when the subject of disease. While few will care to question such obvious considerations, climatology is still comparatively neglected, and does not yet rank where it will probably some day stand—viz., alongside hygiene and dietetics. The reason for this comparative neglect is probably the vagueness which has hitherto for the most part surrounded this subject, and the paucity of accurate and definite data relating to it. It is also unfortunate that the available information is so often obtainable only from interested persons, whose natural bias in favour of certain localities will often, in spite of the most upright intentions, lend a more or less unreal colouring to their statements.

The above considerations make us heartily welcome such a paper as that of Mr. BERTRAM THORNTON'S in our last issue. While we feel some reserve in accepting some of the writer's figures, we must warmly acknowledge the great labour involved in such a collection of statistics and the manifest candour and conscientiousness with which the information has been compiled. Mr. THORNTON aims at giving us a tabular view of the chief meteorological characteristics of the leading health resorts of this country, and a laudable effort has been made to secure uniformity and accuracy in the returns. "The averages have been carefully calculated from the results of at least half a million observations in different parts of the kingdom, all these observations conforming to the strict and minute regulations of the Royal Meteorological Society, whose inspectors periodically visit and report upon the accuracy of the instruments at the different stations, and whose officials carefully analyse and tabulate all the facts recorded by the indefatigable army of observers."

Mr. THORNTON gives four tables, the first showing the average winter and summer temperature at thirty-three stations for the years 1882–8 (inclusive); the second showing the daily range of temperature at twenty-six stations for the same period; the third giving the average yearly rainfall at thirty-one stations; and the fourth showing the average relative humidity at twenty-six stations. The first list shows that Falmouth, Ilfracombe, and Ventnor are the warmest stations in England—their winter temperatures being respectively 44·9°, 44·9°, and 44·2°, and their summer temperatures respectively 56·4°, 57°, and 57·7° F. Teignmouth, Weymouth, and Torquay follow close upon these. Llandudno, though well to the north, has the good record of 42·7° for winter and 55·2° for summer. It is interesting to compare these figures with those of Bournemouth—viz., 42·5° for winter and 56° for summer. It is somewhat surprising to find that the Welsh watering-place is actually warmer in winter than the favourite resort in Hampshire. Margate and Ramsgate show respectively a winter average of 41·8° and 41·6°, and a summer average of 56·4° and 56·7°. Cromer has a winter average of 40·6°, summer 55·4°; while the figures for Scarborough are 40·8° and 54·1°. The above are all marine stations. The figures for Cheltenham and Bath are added, and evidently surprise Mr. THORNTON himself. They are: Cheltenham, 40·6° and 55°; Bath, 40·2° and 53·5°. It would thus appear that Cheltenham and Bath have colder winters and summers than the great majority of the marine resorts, a conclusion much opposed to the impressions usually prevailing on the subject.

The second table of the daily range of temperature at twenty-six stations shows that at Ilfracombe the daily range is only 8·4°, at Falmouth 9·5°, at Scarborough 10°, at Llandudno 10·1°, at Ventnor 10·5°, at Torquay 10·8°, at Margate 10·9°, at Hastings 11·8°, at Cromer 12°, at Bath 12·4°, at Cheltenham 15°, and at Southampton 15·5°. We must admit that we find it difficult to accept these figures. That the daily range of temperature should be less at Scarborough than at Ventnor or Torquay is so much at variance with the general experience of invalids and with the *a priori* probabilities of the case that we are compelled to suspect some error. Then, again, as Mr. THORNTON himself points out, the position of Southampton in the above list is surprising. It seems to us that it is more than surprising, and that the figure given cannot possibly be correct. It seems incredible that the daily range at Southampton should largely exceed that of Hastings and Margate.

The third table shows the average rainfall. Margate and Ramsgate head the list with a yearly precipitation of only 22·98 in. and 23·34 in. respectively; Scarborough has 26·68 in; Bournemouth, 27·12 in.; Llandudno, 27·52 in.; Cromer, 27·73 in.; Ventnor, 28·33 in.; Cheltenham, 28·64 in.; Ilfracombe, 31·53 in.; Bath, 31·71 in.; Torquay, 31·72 in.; Falmouth, 43·49 in. These figures are interesting and important, but we must be on our guard against thinking that the total annual rainfall is any fair gauge of the dryness or humidity of a climate. The rainfall at Nice during the winter is in round numbers about double that of London, but no one doubts that as compared with England the Riviera has a decidedly dry climate. From the invalid's point of view, there is the most radical difference between a climate characterised by constant showers and a high relative humidity and a climate where there are occasional heavy rains and a low relative humidity. It is most important to note upon how many days rain falls, a point regarding which Mr. THORNTON'S tables are silent. Thus at Hastings and Torquay it rains rather more than every other day in winter, while on the Riviera during the same season there are only about six or seven days in the month upon which rain falls.

Mr. THORNTON'S fourth table deals with the closely allied question of relative humidity. He finds that Llandudno stands best, with a humidity of only 79; Torquay and Ventnor have 80; Margate, Ramsgate, and Falmouth, 81; Hastings, Cheltenham, and Bournemouth, 82; Scarborough, 83; Cromer and Ilfracombe, 85; Bath, 86. We cannot comment upon those figures at length, but they contain much that is surprising. It is hardly credible that the relative humidity of the air should be less at Falmouth than at Cromer, at Llandudno than at Scarborough. If these figures should be thoroughly verified, they would necessitate a recasting of many of the ideas which have hitherto passed current regarding the climatology of the British Isles. It is only just to add that Mr. THORNTON fully acknowledges, and indeed emphasises, the puzzling nature of the results which his returns bring out. We have, therefore, the greater confidence that in carrying on his further investigations every reasonable precaution will be taken to ensure perfect accuracy.

THE value of accurate clinical observation finds no better illustration than is afforded in the history of the growth of knowledge upon Graves' disease, the characters of which have been so lucidly set forth in these columns by Dr. HECTOR MACKENZIE. The way in which the knowledge of the features of this singular affection has been slowly built up during the half century in which its existence has been recognised is indeed typical of medical research. As it became familiar to observers, fresh points in its clinical history were added to the list of its phenomena. These new features were all more or less essential, whilst some of the points once deemed essential were noted to be not infrequently conspicuous by their absence. Thus there has been gradually evolved a considerable category of disorders of innervation and nutrition which are linked together under the same nosological head, but which, taken apart, might have seemed to have little in common. It would be presumptuous to say that the catalogue is yet complete; indeed, there are obvious lacunæ still to be filled, and there is no reason to doubt the possible existence of other manifestations of a neurosis so varied and so all-embracing, which may possibly have eluded observation, or from their infrequency have passed unrecorded. The affection shows the importance to be attached to the record of signs seemingly trivial and slight. However, whether there is much more to be ascertained or not, the striking fact is that the points already established have widened enormously the clinical conception of Graves' disease. It is impossible now, in the presence of such additions to knowledge, to assign a primary importance to either of its leading features—e.g., the thyroidal enlargement, the proptosis, or the cardio-vascular derangement. These and all the other manifestations, of which tremor is, according to Dr. HECTOR MACKENZIE, the most prominent, cannot but be the effect of some central derangement to which they are all subsidiary. In what that derangement consists no one can precisely say. Dr. WARBURTON BEGBIE'S belief in a general blood change is not supported by facts. The original idea of some primary disorder of the functions of the thyroid could only be maintained when so much of mystery enshrouded that organ, and on the erroneous belief that the goitre was an invariable feature of the affection. Now that increased light has been thrown on the functions of the thyroid, arising out of the investigation of myxœdema, such a view is no longer tenable. Nor is it possible, without straining analogy too much, to see any connexion between myxœdema and Graves' disease. Almost the only point of affinity lies in the fact, common to both, of the greater liability of the female sex to be subject to them. Otherwise there would seem to be far more in the nature of antithesis than of analogy between the two conditions, the one of which seems to depend on the abeyance of function of the thyroid gland, and the other to exhibit as one (and that not the most constant) of its features an enlargement of this body.

In marked contrast to the degree in which the clinical conception of Graves' disease has expanded is its singular lack of pathological evidence, and the failure to find after the most careful scrutiny any substantial lesion which could be regarded as the *fons et origo mali*. Even in cases marked during life by positive paralysis, as in the remarkable one of ophthalmoplegia recorded by Dr. BRISTOWE, no definite cause of such defect has been ascertained. Such changes that have been described are notable for their fitful character and their, so to speak, accidental presence. Lesions have been met with in brain, cord, and sympathetic, but so inconstantly as to deprive them of any real significance. In spite of these failures it must be that the root of the trouble lies in the nervous system, since there is no other central mechanism disorder of which could produce so complex and so varied a group of phenomena as is met with in the forms of the disease. Still, the search for nervous lesions has been in many cases so profound, with, on the whole, such barren results, that we are almost forced to the conclusion that either our present means are not fine enough to detect the radical organic lesion, or that the change is such as to defy all such scrutiny, being, in fact, dynamic rather than organic. The existence of such a change must always remain in the region of hypothesis, until

at least some tests, as yet unknown, can be applied to dead tissues to prove the past occurrence of purely functional disturbance.

Such, we gather, is the conclusion that has forced itself on the mind of Dr. HECTOR MACKENZIE, who is singularly happy in his comparison of the symptomatology of Graves' disease with the more transient neuro-vascular disturbance excited by the emotion of fear—a comparison which is heightened by the definite information we possess of the initial history of many a case. Like epilepsy, chorea, and perhaps diabetes, it may be that in this disease the origin of its varied phenomena depends on some fine derangement of the cerebral mechanism. It requires no great effort of imagination to relegate its phenomena, in all their variety and capricious association, to the loss of nerve control. To follow out Dr. HECTOR MACKENZIE'S parallel, we see in the manifestations of fright, the staring eyeballs, the rapidly beating heart, the trembling, and the sweating, signs which are reproduced in Graves' disease, and even the swelling throat of emotional disturbance may be typified in the goitre of the malady. And of the signs and symptoms reviewed in these interesting lectures there is not one which may not be referred to primary disorder of nerve function, acting either immediately or through the medium of the circulation. Such are the cramps, the paretic and paralytic phenomena, the occasional thermal disturbance, the defective nutrition of skin and its appendages, the mental derangements, the dyspnœa, vomiting, and other signs; whilst to secondary vaso-motor disturbance may be assigned such events as the intermittent albuminuria and many another symptom. Chief of all must be placed the functional disturbance of the heart, as shown in palpitation and acceleration. Of late much attention has been given to the "rapid heart," which in some persons seems to be habitual, and in others developed independently of any other noticeable derangement of the nervous system. Many of such cases doubtless belong to the same category as Graves' disease, for the line is too fine to be drawn between them and those cases in which the more characteristic features of this affection are but slightly marked. We have learnt that the term "exophthalmic goitre" is too narrow a designation for a morbid state which may exist without either exophthalmos or goitre, and therefore we concur in the propriety of retaining the neutral term—"Graves' disease," although the area implicated by the affection recognised by that illustrious clinician was but small compared with that which it is now known to occupy. Yet we may be content to leave nomenclature aside, provided only that we recognise the wide-reaching affinities presented by the clinical facts of so many types, but all more or less bound up together. The subject is one for thought as well as observation, and the whole tendency of the knowledge so far gained upon it is to relegate Graves' disease and its allied disorders to the great group of the neuroses.

THE question of holidays is becoming a serious one in many ways. The most serious thing is the growth of the idea of holiday making. With a large section of society it amounts to simple restlessness. JOHNSON defined holy day as "a time that comes seldom!" But with this class of persons it is the normal state of life. If they are not having a holiday they are contemplating one. They are unsettled by the frequency of their holidays. They are never *at* home except when they are *from* home, so that the very conception of home and rest becomes impossible to them. A few such persons find a spot which is always grateful to them—a sort of second home, but the run of such people lose the pleasure of habitation altogether, and life becomes a mere matter of locomotion. They are never at rest save when they are in motion. This restlessness we take to be an evil that should be repressed by all sensible people. It is not consistent with steady work of any kind. It is not only bad for the particular person afflicted with it, but for all his relatives. It is of very questionable advantage to the person. He gets no pleasure out of it comparable to that which those get who take their holidays moderately. He passes from place to place without affection or interest or intelligence being excited, and without those human associations which are the chief joy of life. And for poor relatives who have to accompany him *nolens volens*, the case is harder still. They become like so much luggage, or like a shuttlecock knocked about from place to place. They are exhausted by the labour of travel, and are disabled for that large part of the work and pleasure of life which requires continuous residence. This restlessness is more developed still in our American friends, as it is more excusable. They sigh for an older order of things than they see around them, and in the old cities or haunts of Europe, or in the hoary Pyramids of Egypt, get a temporary sense of the idea of permanence. But in them or us it is restlessness still which needs repression and discouragement. We condemn this tendency. It is a result of steam and electricity—very good things if we do not allow them to become our masters.

On the other hand, there are a few persons still left who do not take holidays at all; who boast they have not had one for ten years, or that they have not slept out of their own bed for so long. And they have their reward. For of all the miseries incident to travelling, and which reconcile one to the ending of holidays, strange beds, and the bad sleep and peculiar backache which they engender are among the most remarkable. But, nevertheless, the man who never goes out of town or escapes from the routine of his daily duty is out of harmony with his opportunities and the spirit of the age. We do not care to defend him. He can defend himself. He is always at his post. He is generally a successful man. His happiness is cheaply bought and easily secured. In common duties he finds his pleasant occupation, and in the scenes and persons about him he finds many materials for satisfaction and few for satire. We are of the moderate class who accept occasional holidays as blessings, and defend them even for medical men—*in moderation*.

> "The sweet vicissitudes of rest and toil
> Make labour easy and renew the soil."

Holidays, however, have plenty of drawbacks, and even risks. The accidents of flood and field in the holiday season make a sad chapter, and all the more so that one feels that a little more thought and care would have averted two-thirds of them. Then the risks of infection—who will make light of these? They are the subject of a

special notice in another column, and must be dealt with in "another place." But apart from the grave risk of contracting typhoid, or scarlet fever, or whooping-cough, what foul smells have to be endured, what contempt of sanitation in stately hotels, or in pretty-looking cottages by the sea or in the country! We have been told by a lady of an hotel in a continental city which charmed her most, but where almost every individual visitor in the hotel was afflicted with sickness or diarrhœa, or both. So, even in out-of-the-way places in our own islands, where men of light and leading make their country homes, one is shocked at the absence of public spirit in sanitary matters and the abominations that are permitted — in waterclosets without water, and in drinking water that only escapes the coarsest contamination by accident, and that gives too much excuse for the remark that water is about the most deadly drink you can take. It seems a fair demand that places that make sanitary pretences, and that invite an exceptional strain upon all their sanitary appliances, should give assurances to the public and be required by legislation to do so. Then holidays will be less anxious affairs, and we shall have less to recover from when they are over.

On a medical man enjoying holiday one high pleasure is greatly impressed—the pleasure of finding in almost every place, however remote, a member or two of his own profession, of high cultivation, of great courtesy, and the very centre of light and leading in his district. It makes one feel more secure against all the accidents of the country, medical or surgical, and more proud of his profession to see such men, equal to any emergency, at the call of a neighbouring statesman or a village pauper, the friend of both, equally available either for a game at whist or a capital operation in surgery. The squire and the parson should hold such lives in high regard, and give them more weight in local councils.

THE old questions as to whether teachers alone should be examiners, and whether they should examine their own pupils, were revived at the last meeting (on the 1st inst.) of the Faculty of Physicians and Surgeons of Glasgow, on the motion of Dr. ANGUS M'PHEE, "That teachers be not eligible for election as examiners for the Faculty on subjects taught by them." As was inevitable, the proposition, so sweeping in its character, was rejected, and the previous question carried. In the subjects of the medical curriculum, particularly in those which are making rapid strides, such as physiology and pathology, teachers only, speaking generally, can keep *au courant* with the entire field covered by the latest investigations, and are consequently best fitted to judge of the completeness of a candidate's knowledge. We do not imply that a student should be expected to know details which are the property of special investigators or faddist teachers; but if the student is examined only on the contents of a not too modern text-book, as would often be the case if examiners were not teachers, his knowledge may be wider and more correct than that of the examiner, and yet bring him no credit, and in some instances even discredit. Again, we doubt whether a good examiner can often be found who either is not at present, or has not recently been, engaged in teaching the subject in which he has been appointed to examine; for a good teacher and examiner must not only have an encyclopædic knowledge of his subject, but must be well aware of the relative importance of its various parts. It is almost a truism that the best teachers make the best examiners, and we can hardly conceive of an examining board without a large representation of teachers being included therein. We cannot support Dr. M'PHEE'S proposition, but the speeches of the mover and seconder introduce further important considerations. The practical questions involved are the examination of students by their own, or, perhaps worse still, by rival teachers, and the re-election year after year of the same gentlemen as examiners in the same subjects. One of the speakers said that it was "an unwritten rule" among the examiners that no teacher should examine his own students. This is the case in many examining boards, and in others means are taken to effectually prevent it. No favouritism can occur if such a rule be properly and thoroughly carried out; but if in practice the students are only transferred to a rival teacher, a grave injustice is liable to be inflicted on candidates, and they are worse placed than they would be at an open examination.

The better system is the appointment of a teacher and a strong assessor, with power equal to, or even slightly greater than, that of the teacher in rejecting or passing a candidate. It is necessary also, for the due carrying out of this system, that the assessor should be absolutely independent of the teacher and of the institution, and not merely a teacher in an adjoining school, or a former pupil of the examining teacher. "He should have no expectation of being treated on the Bismarckian motto, *Do ut des*." This system, as faithfully observed in some of our universities, saves the awkward and nervous but well-informed candidate from an unfair rejection, which would too often be his fate if examined by strangers, and it is at the same time, when properly carried out, a wholesome check on any tendency to undue leniency on the part of the teacher. It would also minimise the disadvantages of the time limit in force at some examining boards. For a monopoly in examinerships there is no defence. Every examiner, unless he be the professor or teacher of the subject, should be elected annually, and only be re-eligible for election for a short period—say, three or five years; and every assessor to the professor should be appointed under similar conditions. Reappointments after three or five years should only be made in exceptional circumstances, when every member of the Electoral Committee is convinced that such an examiner is so perfect as to have been "born, not made." If the complaint "that for fifteen or twenty years the same names turn up with the persistence and perpetuity of the Laureate's brook" be true in respect of any examining board, the evil can be easily remedied, and its future occurrence readily prevented. Such a monopoly at any examining board is obviously unwise and unjust.

A CROWDED public meeting was held at Madras on the 21st inst. to consider the insanitary state of the city. The chairman, the Rev. Dr. Miller, stated that the death-rate was far above that of almost any other place in the civilised world. It was resolved to request the governor to appoint a special sanitary officer or a committee to investigate the causes of the unusual mortality.

Annotations.

"Ne quid nimis."

THE LEPROSY INVESTIGATION COMMITTEE.

THE first number of the Journal of the Leprosy Investigation Committee (Macmillan) of the National Leprosy Fund has been issued. It is dated August, 1890, and is edited by Dr. P. S. Abraham, medical secretary to the Committee. It contains reports of the proceedings taken with regard to the origin of the fund, and the promotion of the objects which it has in view; and it is in furtherance of one of these objects—viz., the record of preliminary investigations concerning leprosy—that the journal is published. Thus the main part of this issue is devoted to the publication of certain "remarks and suggestions as to points for investigation," furnished, in response to a circular letter, by many authorities, including Sir Wm. Moore, Surgeon-General Beatson, Professor H. Cayley, Dr. Patrick Manson, Dr. John Murray, Dr. Beaven Rake, Surgeon-General Francis, Dr. Van der Straaten, Professor D. D. Cunningham, Surgeon-Major Pringle, Dr. Radcliffe Crocker, Dr. J. F. Payne, and Mr. Jonathan Hutchinson. Abstracts of debates and reports, and a copious bibliography of leprosy, extending over twenty-four pages, together with a map of the world showing the distribution of leprosy and the seats of the chief leper asylums, complete the number.

SANITARY CONDITION OF BOLTON.

THE Bolton Town Council have recently had under their consideration a report of their medical officer of health (Mr. E. Sergeant), calling attention to the recent high death-rate of the borough. The discussion on the subject derived much of its interest from the evidence it afforded of defects in sanitary organisation almost identical with those to which Dr. Tatham has recently called attention in Manchester, and which undoubtedly exist even in the London County Council—namely, the division of sanitary responsibility among several committees, instead of being united in one. At Bolton it would appear that there is a scavenging committee perfectly independent of the health committee, and that between these two committees there has recently been a good deal of friction which has not conduced to sanitary progress. It is to be hoped, in the health interest of Bolton, that measures will be taken, at any rate, to amalgamate these two committees. It must be obvious that the health committee of every sanitary authority should have the control of all branches of health organisation, although it would probably be convenient that this all-important committee should delegate certain branches of its duties to sub-committees. The last Annual Summary of the Registrar-General shows that the recorded death-rate in Bolton in 1889 was 22·0 per 1000 of its estimated population. The age-constitution of the population of this borough is, however, so favourable to its death-rate that, after correction for this disturbing influence in order to facilitate comparison with the rates in the other large English towns, it becomes 24·1. The corrected rate for Bolton last year stands only sixth from the bottom of the list of the twenty-eight towns specially dealt with in the Registrar-General's returns. Bolton, unfortunately, shares this unfavourable position in the list with most of the other Lancashire towns, the rates in which ranged last year from 22·7 in Oldham to 32·6 in Preston. In striking contrast with these, it may be noted that the rate last year did not exceed 17·0 in Derby, 17·7 in Leicester, 18·0 in Nottingham, 18·2 in Bristol, and 18·5 in London. How long will Lancashire submit to this terrible loss of health and life in its large towns? As regards Bolton, it is remarkable that its death-rate exceeds that of Liverpool, which includes among its population probably a larger proportion of the lowest wage-earners than any other English town. It is also worthy of note that although the death-rate in Bolton last year was so high, it was almost identical with the mean death-rate in the preceding seven years 1882–88, showing that this excess of mortality has been constant in recent years. The excess last year was to a considerable extent due to the fatal prevalence of measles, scarlet fever, and diphtheria; and it is noteworthy that notwithstanding the prevalence of scarlet fever and diphtheria (causing 97 deaths) during the year, only 5 deaths were recorded in the Borough Fever Hospital, showing the very small extent to which this hospital is used for isolation purposes. Notification and hospital accommodation exist in Bolton, but neither appears to be turned to full account; hence Bolton supplies to Mr. Biddle and others a fallacious example of the uselessness of notification.

URIC ACID IN THE BLOOD.

SIR A. GARROD showed some years ago that during an attack of gout the blood contained appreciable quantities of uric acid. Abeles and Saloman have corroborated these experiments. In the *Deutsche Medicinische Wochenschrift*, No. 23 of this year, Professor von Jaksch of Prague, whose valuable researches on the blood are well known, publishes an interesting paper on the occurrence of uric acid in the vital stream. He considers mainly two points. 1. Whether uric acid takes a prominent part in the "acid intoxication" described by himself, Peiper, and others. 2. Whether it is only in attacks of gout that uric acid occurs in the blood. The blood was tested by Salkowski's and Ludwig's method, which Jaksch considers to be very accurate. The total number of patients on whom observations were made was 105. In nine cases of perfectly healthy individuals no trace of uric acid could be detected, neither were there any xanthin derivatives present. In nervous affections, such as tabes, multiple sclerosis, polyneuritis, and tumours of the brain, the results were also negative; on the other hand, in such cases the blood frequently contained compounds of zanthin, especially hypo-zanthin. Nine of the 105 cases were patients suffering from enteric fever, but uric acid was never found in the blood; in one case, however, in which the temperature had fallen small quantities were discovered. In a case of irregular intermittent fever the results were analogous; during the febrile attack no uric acid could be detected, but in the intervals it was present. Diseases of the liver, intestinal tract, and stomach only led to "uricacidæmia" (as Jaksch calls this condition), when there was profound anæmia. Uric acid was found in the blood in cases of heart disease in which there was much cyanosis. In affections of the lungs and pleura it was most frequently detected in emphysema, and when there was pleural exudation. It occurred constantly and in considerable quantities during the febrile stage of pneumonia (five cases). In acute rheumatism it was never found. Fair quantities were present in renal disease—the different forms of nephritis, amyloid degeneration, &c. Considerable amounts were also observed in cases of marked anæmia, both primary and secondary. With regard to the second question, therefore, Jaksch comes to the conclusion that uricacidæmia is not pathognomonic of gout; as to the first question, he concluded that uric acid is not often found in febrile "acid intoxication," but that it may be so. It is important to notice that all morbid processes leading to overloading of the blood with carbonic acid also produce this condition, and the greater the cyanosis the more uric acid is found. Therefore, it would seem that we must ascribe the presence of uric acid to a disturbance of the

interchange of gases in the lungs, such as occurs so largely in pneumonia. How are we to reconcile with this statement the occurrence of uric acid in the blood in nephritis and anæmia? To this question Jaksch answers that in both these diseases the red blood-corpuscles, whose duty it is to further oxidise uric acid, are deficient. He concludes by making the general statement that uric-acidæmia is due to disorders of the red blood-corpuscles, the vehicles by which oxygen is carried.

MEDICAL LIABILITY FOR ACCIDENTS.

IN view of the unbounded charity that is often claimed of medical men, and the scant courtesy which their spontaneous expenditure of skill on behalf of the poor occasionally receives, the following example of litigation is somewhat instructive. In the Supreme Court of New Zealand, a few weeks ago, an action was brought against the South Canterbury Hospital by the father of a child supposed to have been injured through the neglect of the hospital board. The infant, aged seven months, though too young for admission, was taken in as a matter of necessity. No nurse could be spared for its exclusive care. It was, therefore, with the mother's sanction entrusted to a young convalescent patient. Through some neglect on the part of the latter, the infant was scalded by a steam kettle, not very severely, and recovered. The accident was thus, as the presiding judge remarked, one such as might occur in any household in the course of treatment, and for which the hospital board obviously could not be held responsible. Judgment was therefore given for the defendants, with costs, and a sound rating, which was undoubtedly well deserved, was administered to the plaintiff along with the verdict. Cases of this kind carry their lessons. The base ingratitude which they disclose in the recipients of much kind effort and skill freely expended, because forsooth an accident has marred the course of recovery, calls for the severest condemnation. It is evident that in the minds of such persons charity is never genuine unless it can be made as irksome and unpalatable as possible to the bestower. In view of possible contingencies like the above, it might be well for hospital authorities to consider whether they ought not, after the manner of some trading companies, to disclaim *ab initio* all liability for accidental injury to patients who may be placed in their care.

MENTAL IMPRESSIONS v. OÖPHORECTOMY.

IN the course of a lecture upon the treatment of hysteria, Dr. A. Pitrès of Bordeaux (*Rev. Gén. de Clin. et Thérap.*, Sept. 17th), speaking of the surgical measures sometimes advocated and practised to cure neurotic manifestations, relates the following instructive case as reported by M. Chiarleoni, surgeon to the Cremona Hospital: "A young, healthy woman was in 1878 frightened by a fire. She was attacked by convulsions, and from that time was subject to severe and varied hysterical attacks—abdominal pains, insomnia, intractable vomiting, paraplegia, extreme emaciation, &c. Admitted into the Cremona Hospital, she underwent all kinds of medical treatment. Her condition continually getting worse, she was shown to M. Chiarleoni in 1883. He, after having examined her, declared that castration offered the only chance of success. From that time the patient did not cease to loudly demand to be operated upon so that her sufferings might be terminated. Her wishes were not, however, attempted to be complied with until 1887, or nine years after the onset of her hysterical symptoms. This is how they proceeded: The preparations for the operation were made with all due solemnity. The patient, carried into the operating theatre, was anæsthetised by chloroform. The skin was incised *superficially* for a length of ten centimetres, and the wound at once closed by five sutures. An iodoform dressing was applied over the wound. From that day the vomiting ceased, sleep returned, and strength revived. The cure was soon complete. She remained wel for three months after the pseudo-castration, when M. Chiarleoni published the case." M. Pitrès goes on to remark that such a case proves that the operation itself is not the efficient agent in the cure of these cases. This is brought about by a mental revulsion, just as the harmless *mica panis* has succeeded in less serious instances. He truly says that castration is only legitimate when there are grave lesions of tubes or ovaries demanding surgical intervention. It would be interesting to know whether in this case, as has so often happened after "normal ovariotomy," the neuralgic symptoms reappeared with lapse of time.

UNHEALTHY HOMES IN ANCOATS.

A SOCIETY has for some time past been doing its best to secure improvement in the house accommodation provided in Ancoats, a suburb of Manchester; and at a recent meeting the objects of the Society were tersely set out as meaning healthy homes, healthy lives, and healthy surroundings for the people. Dr. Tatham, who in his former health officership always welcomed the aid of popularly-constituted organisations which aimed at improving the sanitary circumstances of the people, has warmly supported the action of the Ancoats Society; and he has urged that in view of the antagonistic attitude of certain property owners and of owners of the soil, who have the power of acquiring influence with the Town Council, it was of the utmost importance that the occupiers should, by means of a local organisation, make their demands known. Already, according to Dr. Tatham, the Society has secured the condemnation of a huge block of unhealthy property, and we join with him in the hope that such a body will receive sufficient outside support as will enable it to continue one of the most important of the many excellent works that are in the present day being carried out in the interests of the community.

TYPHOID BACILLI IN URINE.

DR. JUSTIN KARLINSKI communicates to a Polish medical journal the results of some observations on the existence of typhoid bacilli in the kidney and urine. In six cases of typhoid fever the urine was taken after death by means of a trocar, and in thirty-eight cases it was drawn during life by a catheter and examined bacteriologically by means of gelatine plate cultures. In the cases where a post-mortem examination could be obtained sections of the kidney were also made, and examined by inoculating gelatine as well as microscopically by Konarieff's process. Of the six cases where the kidneys were obtained, collections of rounded granulation elements were found in five, both in the cortical part and beneath the capsule, a few typhoid bacilli lying amongst them. In the central portion no bacilli were found. In one case they were found in the tissue lining the pelvis of the kidney. In the forty-four cases in which the urine was examined Eberth's bacilli were found in twenty-one, all these specimens of urine containing also albumen. In cases where the albuminuria was transient the bacilli were not discovered. Sometimes they appeared in the urine much earlier than in the stools; the earliest appearance in the urine being on the third day, while they were never detected in the fæces before the ninth day of the disease. They were, moreover much easier to find in the urine. Dr. Karlinski also made a series of experiments in order to ascertain whether these bacilli develop in albuminous urine. For this purpose he kept tubes of albuminous urine containing them for some time in a thermostat at about the temperature of the body

and examined them daily, with the result that he found the number of colonies increase very rapidly. The vitality of these was preserved also for a long period. Experiments were likewise made with urine containing bile, but it was found that this entirely destroyed the bacilli in about five days.

CHOLERA AT MASSOWAH.

INFORMATION has reached the Italian War Office that the prevalence of cholera among the native population on the Red Sea littoral is on the decline. Scarcely had the first telegram arrived as to the outbreak of the disease when the Minister of War ordered the immediate return to Massowah of all the medical officers who were absent on leave. The Italian Home Office took prompt steps to despatch to those waters a special sanitary commission composed of Professor Canalis, and Drs. Angelini, Ascoli, and Gorini, to initiate such prophylactic or therapeutic measures as might seem necessary. These sanitary experts sailed on the 20th inst. from Naples on board a steamship of the Navigazione Generale, carrying with them a large assortment of medicines, disinfectants, and hygienic appliances. Their operations, conducted under the eye of the governor of Massowah, will be directed mainly to ensure isolation and treatment of cholera patients, and to strengthen the hands of the local health officers in regulating the food and water supplied to the population, European and native.

WOUNDS OF THE LIVER.

IN a paper recently read before the St. Louis Medical Society, and published in the *Medical Mirror* of that city, are recorded some interesting cases of wound of the liver. The first and most important is that of a man aged twenty-two, who was admitted under the care of Dr. H. C. Dalton, at the City Hospital, St. Louis, Mo., on April 20th of this year, suffering from a stab wound of the liver. An hour before admission he had been stabbed in the abdomen with a long narrow-bladed knife. There was a small wound in the median line an inch below the ensiform cartilage. It was not supposed that this wound had penetrated, there being nothing to prove that it had done so, either in the condition of the patient or in the state of the wound. But not long after admission pain developed, the temperature rose to 102·4°, and the pulse to 102. The liver was then explored through a median incision. A small wound was found on the upper surface of the left lobe, half an inch in length. The finger, passed underneath the liver, discovered a large lacerated wound near the diaphragm, from which was coming an alarming hæmorrhage. The liver was elevated and the stomach depressed, but the hæmorrhage was so great that the original intention of inserting a suture had to be abandoned and the region of the wound was plugged with a large quantity of gauze. This stopped the bleeding, but much blood was left in the peritoneal cavity. The upper third of the wound was left open for the ends of the gauze strips, the lower part closed with bow-knot silk sutures. For a few hours great improvement followed, then pain recommenced, the patient became restless, the pulse rose to 140, and the temperature to 103·6°. Ether was again administered, the gauze removed, and a considerable amount of blood-clot taken from the peritoneal cavity. On removal of the gauze the bleeding was as profuse as at the first dressing, and the wound was again vigorously packed. For some hours the patient was very restless and in great distress, had frequent vomiting, a rapid, weak pulse, a temperature of 101°, with excessive thirst, which was relieved by his drinking large quantities of water. Eight hours later the pain had disappeared, the vomiting had almost ceased, the temperature was 100·2°, and the pulse 92. The gauze was removed forty-eight hours after the second packing. Its removal was not accompanied by hæmorrhage. A good many blood-clots were removed, and the peritoneal cavity was thoroughly cleansed and closed. The wound healed by granulation, and the patient left the hospital a month after admission, quite well. In a second case, a man aged twenty-five had received a gunshot wound in the back at a distance of twenty yards. The bullet entered an inch to the right of the last dorsal vertebra, and lodged under the skin on a level with and an inch external to the right nipple. In its course it had passed through the right kidney, the liver, and the right lung, as evidenced by the presence of blood in the urine, and the onset later of jaundice and extensive pneumonia. The shock at first was very severe. No operation was performed, and the man recovered in six weeks. The third case was that of a man aged twenty-four, who was shot by a revolver at a distance of four feet. The bullet entered on a level with and two inches to the right of the ensiform cartilage, and lodged two inches to the right of the eleventh dorsal vertebra. It had wounded the liver and right kidney. No operation was considered necessary. The man rapidly recovered, and left the hospital in eighteen days. Dr. Dalton also refers to a man who was under his care two years ago, in whom the bullet passed through the liver, the diaphragm, into the pleura and back again into the peritoneal cavity, lodging in the post-peritoneal space in the right lumbar region. Fæces afterwards escaped through the incision made for the evacuation of pus from this spot, showing that the bowel had been wounded by the bullet. The man eventually recovered.

DEATH UNDER CHLOROFORM.

A CASE of death from chloroform of some interest is reported to have occurred in St. Thomas's Hospital recently. The patient was the subject of pyo-pneumothorax on the right side, which had lasted over a year. Portions of his ribs had on several former occasions been removed under chloroform, without the occurrence of any bad symptoms from the anæsthetic. The cavity showed signs of contracting, and the discharge was still very profuse. It was decided to explore the wound, and if possible reduce the size of the cavity by rib resection. The patient was anæsthetised, and when sufficient coloroform had been given, before the dressings were removed from the wound, his pupils suddenly dilated, and both heart and respiration ceased almost instantaneously. All efforts to restore him proved unavailing. At the necropsy the heart was found to be healthy, but had been displaced somewhat to the right side. It seems probable that the patient died of cardiac failure, the death being accelerated by the diseased condition of the lungs.

AN EYE QUACK IN BRUSSELS.

AN Arab eye quack, Golam Kader, who has already made himself notorious in various continental cities, is attracting unusual attention just now at Brussels. From notices that have appeared in the Belgian journals by medical men, some of whom were permitted, under the guise of reporters for political newspapers, to be present at the proceedings, we learn that an empty house belonging to the corporation and the approaches to it are besieged by from 600 to 1200 patients at the time of the daily consultation. A reclination operation for cataract was witnessed, the immediate success of which, as evidenced by the patient saying she could see the operator's hands, produced a great sensation among the crowd. All the other patients, including cases of absence of the eyeball after excision, staphyloma, keratitis, and conjunctivitis, purulent as well as simple, were all treated by the application of a brush—which was never washed—dipped in one universal

collyrium, several hundred patients being thus doctored in less than half an hour, all of them being given hope and told to come again the next day. It may be asked how is it that in a country where the practice of the art of healing by unauthorised persons is illegal—which, of course, it is not with us—a notorious and dangerous quack, such as this Arab, should be allowed, not merely to practise, but to use a house belonging to the municipality of the metropolis for his operations? The answer is humiliating enough—a duly qualified practitioner is said to be "covering" him. It is known in Brussels that Golam Kader was successfully prosecuted at Genoa for illegal practice some three years ago, and it is possible that the Brussels medical authority may have something to say on the matter.

THE "EPIDEMIA DI SAN GOTHARDO."

ITALIAN nosologists have classified this disease, which, prevailing in epidemic form in the Canton Ticino, the layman may be apt to confound with the periodical collisions between Liberal and Ultramontane, of one of which that canton has just been the scene. Dr. Prospero Sonnino, some time since, read a paper before the Florentine Società d'Igiene, in which he traced the malady to the presence in the duodenal mucosa of a parasite, the "anchylostoma" described by the Tuscan helminthologist Dubini in 1838. Sporadic cases of the "anæmia perniciosa," the pathognomonic feature of this disease, have occurred from time to time in Upper Italy, but not till the decade 1872–82 did it assume epidemic proportions. At that period the St. Gothard tunnel was in course of construction, a gigantic undertaking in which navvies not only from the Canton Ticino, but also from Piedmont and Lombardy were largely engaged. The confined air of the tunnel, charged with noxious gases evolved from the disturbed earth, seemed to favour, if not actually to induce, the disease, and so many of the navvies suffered from it that the hospitals at Airolo and other stations on the line had to be enlarged to make room for the constant influx of patients. The dependence of anæmia perniciosa on the presence of the anchylostoma duodenale having been ascertained, Dr. Sonnino proceeded to describe the treatment to which the malady was found to yield, and this was large doses of thymol. Further confirmation of Dr. Sonnino's positions has lately come from Ceylon, where the same anæmia perniciosa, associated with the anchylostoma duodenale, prevailed in epidemic form, particularly at Colombo, and was successfully treated by thymol in considerable doses, just as recommended by the Florentine helminthologist.

A CORONER'S OPINION.

IN August last an inquest was held at West Ham by Mr. Henry Symonds, deputy coroner, touching the death of a single woman aged fifty-seven years. The deceased was found dead by her brother, who sent for Dr. Drury. The latter gentleman reported the case to the coroner as follows:—"I beg to report the sudden death of Eliza Rebecca Pearce. Deceased is quite unknown to me, and has not been medically treated by anyone for years past. I have viewed the body, but found no marks of violence or injury upon it." At the inquest Mr. Symonds thought fit to animadvert on Dr. Drury's conduct in the following terms:—"Dr. Drury should have instructed the police, so that he (the coroner) might have had full particulars regarding the death, and should not have sent a letter which practically contained no information at all, so as to enable him to judge as to the cause of death. Under these circumstances he considered it would be more satisfactory to have an independent medical testimony." We take this opportunity of protesting against the language of the coroner and against the want of courtesy with which we consider he treated Dr. Drury. The latter gentleman did all that was legally required of him, and more, for instead of giving the coroner "no information" he actually reported the result of the examination which enabled him to say there were no marks of violence on the deceased. Why the coroner did not regard Dr. Drury as an independent witness we are at a loss to understand.

MASSAGE IN HEADACHE.

DR. NORSTRÖM, finding that a good many cases of headache occur where, though the symptoms are more or less like those of migraine, the remedies suited to that affection are of but little use, examined the heads of such patients carefully, and came to the conclusion that the pain must depend upon inflammatory thickenings existing at the insertion of various muscles, especially the sterno-mastoid, the temporal, the scaleni, the trapezius, and the occipito-frontalis. These indurations do not usually produce any local pain, and therefore are generally unnoticed both by physician and patient. They are commonly the result of "taking cold," and the headaches they cause can be traced to changes in the weather. Dr. Norström obtains excellent results by regular massage of these indurated spots, the sittings lasting for about a quarter of an hour. Similar treatment is also efficacious where the headache is due, as it sometimes is, to enlarged lymphatic glands. Of course, little result can be expected from massage in headaches of anæmic or of hysterical origin, or where there is organic cerebral disease.

NORTH QUEENSLAND MEDICAL SOCIETY.

IT may be taken as a surety of the accomplishment of a high proportion of success in a young colony when its medical men settling there begin to form themselves into a Medical Society. From no British possession does the truth of this proposition receive more ample confirmation than from North Queensland, which in commerce, agriculture, engineering, and in the department of national finance has made strides equalled by few and excelled by none of the sister colonies in the southern hemisphere. The North Queensland Medical Society has just issued its first annual report. It has commenced with twenty-one members, with fair prospects of increase. Undertakings of much humbler origin have ultimately made their power felt over the civilised world. Such a membership, obtained in an area so widely scattered, says much for the management of the Society. We have much pleasure in echoing the wish of the secretary, G. A. Van Someren, M.B., C.M., Townsville, that the Society may enjoy a prosperous and influential career.

INFECTIOUS DISEASES IN HEALTH RESORTS.

IT is a terrible thing when people in health resorts harbour infectious diseases and conceal the fact. The Metropolitan Asylums Board report the reception of four cases from one locality, all unrelated to each other, save in going to the same place in search of health and getting enteric fever instead. This is a very familiar story to medical men, and is now becoming so common an incident in connexion with the summer exodus that it ought to be the subject of immediate and special legislation. It is already a legal offence to knowingly send an infected person to a strange place in a public conveyance. To send them to public resorts is a heartless procedure that should be ruthlessly exposed by the authorities of any such place. Then, at all hazards, the existence of such cases in any given health resort should be published, and the premises and all the plant thereof barred from public use. No doubt this would be hard on the particular householder, and it might be right in the sanitary

authority to compensate him for any loss sustained, just as the owner of infected cattle is compensated for reporting and destroying his infected stock. But the scandal of towns with infected centres entrapping the public and spreading infection amongst the unwary must be stopped. Apart from some such measures, a notification system is a delusion and a snare. It deceives the public by throwing it off its guard, and leading it to believe that steps have been taken to isolate infectious cases. Notification is merely a means to an end. One effective way to put a stop to this scandal would be to make the sanitary authority of any place in which infectious diseases have been contracted by obvious carelessness on their part responsible in damages to the sufferers. It is too much the fashion of the authorities in health resorts to hush up and conceal the existence of such cases. The complete publication of all the facts would be far better policy in the long run. Few places are actually free. The safe places are those where the risk is boldly faced and candidly confessed.

LUPUS AND TUBERCLE.

DR. KROKIEWICZ, in a series of articles in the *Przeglad Lekarski*, discusses the evidence for and against the theory of the identity of lupus with tubercle, and describes his own experiments in connexion with this subject. He examined fifteen cases of from six months to fifteen years' duration, most of the patients being children. In three cases Koch's bacilli were easily found. In the other twelve they were very difficult to discover, one case only showing two bacilli in forty-five sections; but that the tubercle virus was present was proved by the effects of inoculating animals with particles of the lupoid tissue. Of twenty-three rabbits and one guinea-pig thus inoculated, five rabbits died from acute peritonitis, while four of the remaining nineteen developed general tuberculosis. Most of the inoculations were performed by injections into the peritoneal cavity. Some were performed on the eye and ear, but these inoculations were ineffectual. Dr. Krokiewicz entertains no doubt that lupus is a tuberculous affection of the skin, but considers that the quantity of tubercle virus is very small.

THE CHOICE OF GENERAL ANÆSTHETICS.

IN the course of an interesting paper read by Dr. Hunter McGuire before the Medical Society of Virginia, it is strongly urged that discriminative choice be exercised in selecting an anæsthetic for any given case. Chloroform, it is insisted, presents greater dangers at the time of the operation, the sphygmograph showing that it produces vasomotor depression and cardiac paralysis. The only death Dr. McGuire has seen from chloroform occurred under his own hands, and was from primary cardiac syncope. Ether, he believes, may set up acute nephritis or pneumonia "hours or days" after its use, and he would therefore avoid its employment in cases of chronic renal or pulmonary affection. Commenting on his view that the dangers of chloroform are only immediate while those of ether are delayed, it must be remembered, as pointed out by Thiem and Fischer,[1] that acute fatty degeneration of the heart with late development of fatal syncope has been shown to ensue days after chloroform administration, while ether, when given, as in this country, in apparatus which minimise the quantity of ether employed—e.g., a couple of ounces for any average operation, instead of as many pounds employed when a cone or towel is used—but seldom if ever causes renal or pulmonary after-effects. Dr. McGuire regards chloroform as safe in cardiac valvular disease, but less safe than ether when the heart is fatty or in cases of nervous hearts. He strongly emphasises the danger of operating upon a patient partially anæsthetised, as he regards this as a cause of many deaths under chloroform. Fear, again, is stated to be a constant source of danger, and when much alarm is manifested Dr. McGuire advises the use of ether. To absence of fear he attributes the favourable statistics of chloroform in child-birth and in operations on young children, and in army hospitals. Alcohol as a stimulant before anæsthesia is to be deprecated, because it "increases the duration and violence of the stage of excitement, and makes nausea and vomiting more likely to occur." Dr. McGuire closes his paper with a well-timed protest against the one-sidedness of many disputants, and insists upon a due recognition of the merits and shortcomings of both chloroform and ether. "Surely," he says, "bigotry and intolerance should have no place in questions like the one under consideration."

[1] Ueber tödliche Nachwarkung des Chloroforms.

UNREGISTERED PRACTITIONERS AND CERTIFICATES OF INSANITY.

A PROSECUTION under the Lunacy Act at the Otley Petty Sessions supplies a warning to medical men. Dr. Henry Dobson of Craiglands Hydropathic Establishment, Ilkley, was charged in the following words:—"That you did on the 9th of August, at Ilkley, wilfully and falsely state in a certificate signed by you under the Lunacy Act, 1890, in the form required by that Act, as to one Mary Sophia Clarke, a person of unsound mind, that you were a person registered, under the Medical Act of 1858, whereas you were not, on the said day of August, a person so registered." On the arrival of the patient at St. Luke's the officials of the hospital found that Dr. Dobson's name was not on the Register. This being so, of course the whole proceedings were invalidated, and a fresh petition, fresh particulars, and new certificates had to be procured. Dr. Dobson was admitted to be a doctor of medicine of the University of Edinburgh, but this was of no avail apart from registration. He was committed to take his trial in October. He reserved his defence, and was admitted to bail in his own recognisances of £100.

MEDICAL TREATMENT OF FRACTURES.

DR. DE VARONA Y GONZALEZ DEL VAILLE, in a graduation thesis in Havana, discusses the advantage of prescribing various forms of phosphorus for patients suffering from fracture. He carried out a series of experiments on dogs and fowls by breaking the femur by means of an osteoclast, and putting up the limb in splints. He then divided the patients into two groups, the first group being treated with phosphorus in various forms, the second being left without medication. The result was that the callus was more abundant and firmer in animals treated with phosphide of zinc than in those treated with phosphate of lime, or than in those which were not treated at all. These results were confirmed by observations made in the surgical wards, where it was found that patients with fractures who took from a quarter to one-eighth of a grain of phosphide of zinc daily made exceptionally good and rapid recoveries. The only unpleasant effects produced by this treatment was that one out of the eighteen patients on whom it was tried suffered from slight diarrhœa, and in one the pulse became slow and hard.

CHOLERA INTELLIGENCE.

ALTHOUGH no detailed information as to the distribution of cholera in Spain is now forthcoming, it is clear that further extension of the disease has taken place during the past week, and that the number of attacks since the beginning of the epidemic has now considerably exceeded 4000. The city of Valencia still remains seriously affected, and

the neighbouring provinces of Castellon and Cuenca are infected. The news from France and Portugal is to the effect that both those countries have so far escaped. In Arabia cholera is declining, and it will probably never be known how great the mortality amongst the pilgrims has been; but, from certain intelligence which reaches us, the death-roll has been a terribly long one. The Massowah outbreak has unfortunately extended to some of the Italian troops. In Aleppo the disease does not appear to have made rapid progress, but twenty-one deaths occurred within five days ending Sept. 15th. In Cyprus the authorities are fearing the unauthorised arrival of passengers from Syria; and in view of the existence of the disease in Persia and Mesopotamia stringent measures are being adopted in Russian Caucasia to prevent unregulated communication between the countries in question.

THE DANGERS OF LONDON STREET CROSSINGS.

IT is hardly necessary to recall the fact that street accidents are of frequent occurrence in London in order to assure ourselves that the traffic in public thoroughfares is in dangerous excess of its natural limits. The evil, moreover, shows no sign of abatement, but rather of annual increase. It is time, therefore, to consider how we may best secure the safety of pedestrians, and we shall in this connexion direct attention especially to the useful suggestion of a contemporary, which proposes the formation of subways or bridges at the more frequented crossings. Of these two alternatives, the bridge has this in its favour, that it would form a conspicuous, and sometimes even an ornamental, object, and would by its evident convenience invite the passer-by. On the other hand, it would also assuredly present an obstacle in the course of the busy stream rushing beneath its arches and eddying round its pillars. Take, for example, the case of a bridge, or, what would alone secure the desired result, a circle of bridges, at the Mansion House corner. It is probable that we should lose as much as we should gain by such an arrangement. Here a circular subway, if it really came to be used by wayfarers, would better serve the purpose. We shall probably be right in saying that the bridge would suitably replace the single street crossing, but that in cases like that above quoted the subway, radiating or circular in design, would be preferable. In any case, many foot-passengers would use neither, but continue to travel, as now, among the wheels and quadrupeds. A certain number, however, including most of the old, infirm, or timid—those, in a word, more liable to accident—would observe caution and go by the new and special routes. All conclusions on the subject are doubtless premature, but the practical value of this suggestion might as well be experimentally tested by its application at one or two chosen spots in the metropolis.

AMERICA, SELF-PRODUCING AND SELF-CONSUMING.

SUCH is the scope, the wealth of opportunity, the productive and applying power exhibited by their country, that the minds of even thoughtful Americans cannot always view it without a rather emotional veneration. It is doubtless to this condition of partial and not unnatural rapture that we must attribute the singular conclusions arrived at by Mr. Dodge in a paper lately read before the American Association for the Advancement of Science. According to this author, whose data we have not, the standard of living in the United States is the highest known. The meat consumption is much greater than in Europe, and exceeds that of Great Britain by one-third. Cereals are despatched with a voracity which leaves every other civilised State hopelessly behind. Clothing is woven and worn with similar liberality. Houses, land, and wages follow the same high scale. Doubtless, therefore, the transatlantic life is an order for large work. Mr. Dodge tells us, moreover, that the maximum has not yet been reached. He hopes that this consummation is still very distant, and he is careful to impress upon his hearers that a result so undesirable can only be avoided by continued industry in the work of production, and by a self-contained independence which will hold the national produce chiefly for the home markets and will discourage the thriftless principles of international exchange. The argument would not be American if it were not novel; but, in spite of this attraction, we must admit that it does not satisfy us. In it principles which are probably as old as the soil of the United States, and therefore older than the great Western Republic, have not been duly regarded. The policy of exclusive self-satisfaction which it inculcates, whether in dealing with food supplies or household goods, is itself thoroughly unhealthy. It tends to those very vices of indulgence and luxury which Mr. Dodge rightly views as the precursors of poverty, to narrow views of things and men in general, and, as a consequence, to fatal cramp of the national energies. It ignores the fact that home production, even if that home be a continent, cannot overflow for ever, and that there must be many trade products which pass through their birth and development in the workshops of other lands. In spite of the pleasing, if somewhat unsatisfactory, vision, passed before them in this paper, of themselves as a great absorbing and retaining body, we are not without proof that the American people understand the primary laws of commerce too well to mistake it for reality. Their present prosperity has much to do with a wholesome acquaintance with international barter, and already there are signs that they appreciate, though rather timidly, an extension of their chosen principle of freedom even to commercial exchanges.

BIRKENHEAD GUARDIANS AND THE STIMULANTS QUESTION.

IT will be remembered that the teetotal party of the guardians carried their anti-alcohol views so far as to call on the doctor to resign. A sort of compromise seems to have been arranged—the medical man, Dr. McNeill, having written to the chairman of the board to the effect that he was prepared to accept the resolution of the workhouse committee—namely, "that, in the opinion of this committee, it would be judicious for the doctor to reduce to its lowest minimum the use of alchoholic stimulants in the treatment of the patients and to introduce in their stead medicinal stimulants and nutritious diet." We are against all dictation to medical men as to how they are to treat patients. A respectful representation to them on the varying expenditure on alcohol in different hospitals is allowable, but no more.

DEATH FROM ELECTRICITY.

A SINGULARLY tragic death from electricity has been recently reported from New York, where a workman employed to repair an electric light wire was killed by receiving the current through his body. The unfortunate man appears to have committed the gross and incomprehensible mistake of attempting to manipulate the wire with a pair of steel pliers unprovided with insulators and held in his naked hand. Probably he relied on the insulating covering of the wire to protect him, and it is easy to imagine that under pressure from the pliers this insulator gave way, or that it was, to begin with, defective. However that may have been, the instrument served to switch the unhappy man into the electric circuit, and he remained helpless in that position for nearly ten minutes until released by an electrician, who had to be summoned from a distance. In this case death is said not

to have been instantaneous, for the man was breathing when pulled down from the wire; but it occurred while he was being conveyed to the hospital. In face of carelessness such as this, it seems futile to prescribe precautions. Wires conveying currents of such strength as that which this man received are of course placed far enough out of the way of the ordinary public and protected by all imaginable precautions. There is nothing in the reported facts of the present case to show that these precautions had failed, or that the danger which the workman incurred was at all in the nature of a public peril. On the contrary, he appears to have met his death by a most reckless disregard of elementary precautions. A pair of insulated pliers or insulating gloves—the most familiar items in an electrician's kit—would have made him perfectly secure, and however much, therefore, we may regret the untoward event, it seems impossible to derive from it even the poor result of an instructive lesson.

HYGIENE IN LIBRARIES.

AT the late meeting of the Library Association at Reading, Mr. W. H. Greenhough, in an interesting paper, discussed the hygiene of free libraries and reading-rooms. As regards ventilation, the preference expressed for Tobin's tubes was not unreasonable, as these appear to have served their purpose in the Reading library. Here, however, they are arranged in a peculiar manner—namely, in a continuous length round the room. In reading-rooms a further addition of air might be gained without draught by means of cuttings between the window sashes, on Mr. Tobin's plan. As efficient, if not more so, where gas is used, McKinnell's method should act in such cases with success. According to this plan, we may remind our readers, a central outlet and an enclosing inlet tube occupy the middle of the roof space. Whatever the particular system, however, one point ought not to be forgotten—namely, that in our climate reliance may usually be placed on natural methods, of which the above are good examples. Heating, as the author of this paper observed, can best be carried out by means of hot-water pipes. These, in his experience, have worked satisfactorily, and for certainty, safety, and economy are preferable to fire-grates and steam-pipe arrangements. A word in favour of the electric light was not spoken too soon. Notwithstanding that the system is still imperfect, its adoption, at all events, on the low-pressure principle would go far to secure a bright and steady light, with a minimum of risk as regards accident, and, after the initial cost of fittings, at an outlay which will bear comparison with that of gas.

COTTON MANUFACTURE.

A PROSECUTION of some importance to the people of Rochdale was brought to a successful issue in the police court of that town a few days ago. A manufacturing company was summoned at the instance of the inspector of manufactories for having allowed the atmosphere in one of the company's sheds to become impregnated with moisture to a point higher by two degrees than that permitted by the Cotton Factories Act of last year. For the defence there does not seem to have been much to be said except that the particular industry in which the company was engaged is new to Rochdale, and therefore, we presume, that a certain allowance should be made for ignorance or inexpertness. That, however, strikes us as being a very poor excuse. The fact that the industry is in a sense new affords good ground for looking very narrowly after it, and amply justifies, if justification be required, the use of strong measures to prevent any infringement of the statutory provisions made for safeguarding the health of workpeople. It is no doubt true that the ordinary construction of cotton-spinning machinery renders it peculiarly liable to develop at points considerable charges of statical electricity which, if not promptly dissipated, seriously impede the manufacturing process. It is also true that as yet the ingenuity of inventors has hit upon no more practicable way of dissipating these charges of electricity than that of carrying them off by means of conduction through a humid atmosphere. It is a very bad plan, but so extensively adopted that it is perhaps out of the question to prohibit it altogether. But if so much is conceded to what we may—somewhat complacently—call necessity, the regulations under which the practice has been placed should be rigidly enforced, and we are glad to see that the Rochdale magistrates have backed the factory inspector's protest by a fine of £5.

ACCIDENT ON THE MATTERHORN.

THE Matterhorn has claimed another sacrifice. A few days since Herr Göhrs started to make the ascent and partially succeeded, but through some unaccountable accident was precipitated into the Furgen Glacier, together with the two guides by whom he was accompanied, the three men being roped together. The Secretary of the Alpine Club has written saying that the mountain is in excellent condition this year, and that the accident is regarded on the spot as being not less unaccountable than lamentable. It hardly needs to be said, however, that mountaineering on the Alps is, even at its best, a recreation attended by considerable risks. It is easy for the members of the Alpine Club and their sympathisers to exaggerate the security implied in the statement that the mountain is in good condition. A head unused to precipices will grow dizzy when the feet are planted on the firmest rock; while feet and hands not trained to the ways of a pathless mountain side cannot be rendered expert in an instant. In a word, the risks of mountaineering are due as much to the qualities of the mountaineer as of the mountain. It behoves tourists in Switzerland to bear this fact in mind, and to test their powers by cautious experiments. The ambition which aims at rivalling recorded performances upon the Alps is not only accountable for many a lamentable mishap, but even singularly calculated to "overleap itself."

DEPUTY-INSPECTOR of Hospitals and Fleets Daniel O'Connor, M.D., died at 61, High-street, Killarney, on the 14th inst., after a brief illness. He was entered as Surgeon in 1856, became Staff Surgeon in 1867, Fleet Surgeon in 1877, and retired in 1887, with the rank of Deputy-Inspector of Hospitals. He was Fleet Surgeon of the *Superb* at the bombardment of Alexandria on July 11th, 1882, and during the Egyptian war; was awarded the Egyptian medal and Alexandria clasp, the Khedive's bronze star, and the Third-class Order of the Medjidie.

THE first meeting of the Hunterian Society will be held on Wednesday, Oct. 8th, at 8 P.M. A short address will be delivered by the President, and a paper will be read by Dr. Pye-Smith on Some Points in the Prognosis and Treatment of Cardiac Disease.

THE first meeting of the Obstetrical Society of London for the winter session will be held, not on a Wednesday as usual, but on Thursday, October 2nd.

THE Harveian Oration will be delivered by Dr. Andrew, at the Royal College of Physicians, on Saturday, Oct. 18th, at 4 P.M.

AT the meeting of the Commissioners of Sewers in the Guildhall on the 23rd inst. the medical officer of health, Dr. Sedgwick Saunders, reported that the health of the City had been good compared with former years, although, owing to the operation of the Notification of Infectious Diseases Act, a greater number of such cases had been under observation, the cases, however, being of a mild type. The provisions of the Act were spoken of as having been of immense assistance to officers of health in enabling them to adopt precautions for preventing the spread of disease in such cases. There had been the usual cholera scare, and the average death-rate for the past eight weeks was only 9·22 per 1000, with one exception the lowest rate ever recorded in the City annals.

IRISH LUNATIC ASYLUMS.

THE thirty-ninth report on the district, criminal, and private lunatic asylums in Ireland has just been issued. The two new inspectors, Drs. Plunkett O'Farrell and Maziere Courtenay, were only appointed at the commencement of the present year, and, as they did not hold office during any part of 1889, they do not hold themselves responsible for any statistics referring to that year. They remark that the condition of the insane in Ireland, scattered through the various workhouses or wandering at large, has never been considered satisfactory. Both the Local Government Board and the guardians of the local unions, as a general rule, are unwilling to undertake the care of those whose mental condition would require supervision, except under the provisions of the 38th and 39th Vic., where special contracts have been made for their reception, as otherwise no legal power exists for their detention, nor had their care and safe keeping been recognised in any way under the Poor Law until the Act of 1875. The only plea for the detention of lunatics and imbeciles at present in the various workhouses is that they are destitute persons; and it follows that the arrangements for the proper care and maintenance of harmless lunatics and idiots in these institutions do not meet the requirements of this helpless class; neither is there any provision for the supervision of the insane poor in private dwellings or wandering at large, as in England under the 16th and 17th Vic. The inspectors hope at an early date to report on the present condition of the insane in the various licensed houses in Ireland, as they consider that their condition, with few exceptions, is not entirely satisfactory. Many contain but two or three patients, whose contributions toward their support will hardly admit of due provision being made for their proper care. The extension in Ireland of public hospitals supported by public grants, or charitable institutions for the reception of the insane whose friends are able to contribute only a small sum for their support, appears to be a want urgently felt in Ireland. They further point out that the provisions of the Act with reference to private asylums in Ireland are not sufficiently strictly carried out, especially as regards the keeping of the various books and the use of restraint, which latter in some instances appears to be used continuously, and in others without any order from the physician, and without any record of its form and duration. Of the 16,159 patients mentally affected on Jan. 1st last, 11,180 were located in district asylums, 4165 in poorhouses, 637 in private asylums, and 176 in the Central Criminal Asylum. As contrasted with the number of insane on Jan. 1st, 1889, there has been an increase of 474, of which 355 were due to admissions in district asylums. The total number under treatment for the past year in district asylums was 13,781, of whom 1213 were discharged recovered, 519 improved, 88 not improved, and 779 died. The mortality in Irish asylums, it may be remarked, as represented in a long series of annual returns, has been uniformly low in proportion to the daily number of their inmates. In 1888 it was only 7½ per cent., and last year it was something lower. Of the 779 deaths, 278 were due to thoracic affections, 224 to cerebral and cerebro-spinal affections, 135 to debility and old age, 50 to abdominal affections, and 44 to fever and other diseases. Two deaths were accidental and one suicidal. In reference to the physical causes of the mental disease in the inmates of district asylums, 278 were attributed to intemperance and irregular living, 180 to cerebral disease, and 292 to bodily injuries and disorders, out of a total of 847 from physical causes. Of the total number (2956) admitted into district asylums during the past year, 944 were married, 1770 single, 157 widowers or widows, and in 85 instances the social condition was not known. That the number of single persons should nearly be double that of the married is contrary to what is observed in other countries, and no explanation has ever been attempted why it occurs invariably among the insane in Ireland. The total insane in workhouses amounted to 4165; the idiot class was composed of 1977 individuals, 391 being epileptics; and the demented to 2188, of whom 336 were also epileptics. The expenditure in district asylums for the past year was £235,460 17*s.* 9*d.*, equal to a capitation scale of £20 0*s.* 11*d.*, or a decrease of 9*s.* 11*d.* per head as compared with the previous year.

INTERNATIONAL EXHIBITION, EDINBURGH, 1890.

II.

Filters.—Passing over the commoner filters, those most worthy of note are Barstow's patent combination, natural stone and carbon filters. They all consist of a porous natural sandstone, cut and cemented to the required shape and size, through which the water percolates, and is freed from all suspended matters. The water then passes through a layer of charcoal to complete its purification; while, by a simpler arrangement, air gains access to the filtered water. The advantages of the filter are the ease with which the stone filter is cleaned and the saving in charcoal, which requires to be less frequently renewed than in ordinary charcoal filters, owing to the efficiency of the stone in preventing the passage of solid impurities. By adaptations of the same principle, domestic filters and glass table filters are made, while a very valuable application of it can be used for house cisterns or ships' tanks. The last consists of a box made of natural stone with a central chamber. The box is fitted inside the cistern, and the water percolates through it into the central chamber, and from there is drawn off. A modification of the same method is adapted for attaching to an ordinary water tap, and it is said to filter the water almost as quickly as the main supplies it.

Physiological and Electrical Exhibits.—Mr. Hutchinson of Edinburgh shows physiological apparatus, reflecting galvanometers, resistance coils, keys, and Dr. Milne Murray's liquid rheostat, and other instruments used in physiological investigation. The exhibition contains many electrical exhibits of great interest, but most of them have either no relation or but a remote bearing on medical matters. Fleming and Co. of Edinburgh show various descriptions of batteries and other electrical and medical instruments. Gent and Co. of Leicester have a number of very ingenious and useful applications of electricity, those used for medical purposes being galvanic, cautery, and lighting instruments for laryngoscopic and other work; they are also wholesale agents for Dr. Gassner's Dry Battery, which claims to be a perfect dry cell. It consists of a carbon cylinder packed round with oxide of zinc and gypsum and contained within a zinc case, which also forms the zinc pole of the battery. These have been on trial for two years, and are said to have given complete satisfaction and to be equal to the Leclanché cell. They are not acted upon by temperature or moisture, and they are recharged by passing a current from a dynamo through them. If further experience supports the claims of this cell, it will be welcomed by many in the profession to whom the *wet* batteries are a source of perennial trouble and disappointment.

Foods and Drugs.—These, but especially the former, are well represented. Brand and Co. show their well-known meat essences, broths, and soups; the Bovril Company their preparations; Bonthron and Co. have a large case displaying diabetic foods in varied and tempting forms; while the Frame Food Company shows its preparations and dispenses its coffee and cocoa. Messrs. Burroughs, Wellcome, and Co. have a number of cases of carved and inlaid Oriental workmanship, in which are exhibited their own

elegant preparations and those of firms which they represent.

Miscellaneous.—Under this head may be classed the exhibits by Billington Brothers of Liverpool of bed-rests, asylum and other bedsteads in various designs; books and leaflets by the Edinburgh Health Society; exhibits from the Free Church of Scotland's Livingstonia Medical Mission; and the apparatus and appliances used by the St. Andrew's Ambulance Association for first aid and transport to the sick and injured. Most if not all of these are so well known to the profession that any detailed account of them here would be superfluous.

THE OPENING OF THE MEDICAL SCHOOLS.

THE winter session of the medical schools in England and Ireland will commence on Oct. 1st in every case except that of University College, Liverpool, which will resume work on the 4th of the month. Lectures and social functions will take place at the various centres as follows:—

London Hospital.—Old students' dinner at 7 P.M. Mr. Walter Rivington in the chair.

St. Bartholomew's Hospital.—Sir Dyce Duckworth will preside over the old students' dinner.

St. Mary's Hospital.—Dr. Handfield Jones will deliver an address at 4 P.M. At 7 P.M. a dinner will be held in the Whitehall rooms of the Hôtel Métropole. Dr. Lees in the chair.

St. George's Hospital.—An introductory address will be delivered at 4 P.M. by Mr. Augustus Winterbottom. The prizes will be delivered immediately afterwards. Mr. T. Holmes will preside.

The London School of Medicine for Women.—Introductory address by Mrs. Stanley Boyd, at 3.30 P.M.

King's College Hospital.—Distribution of prizes at 4 P.M. The College is undergoing most extensive alterations in order to build a laboratory for electrical engineering, towards which Lady Siemens has contributed the munificent sum of £6000.

Charing-cross Hospital.—Dr. Wilks will occupy the chair at a meeting of the Physical Society.

Guy's Hospital.—The session resumes on the 1st.

Middlesex Hospital.—The introductory address will be delivered at 3 P.M by Mr. Storer Bennett, F.R.C.S. The prizes will be distributed by Mr. Kegan Paul, and at 7 P.M the annual dinner will be held at the Holborn Restaurant, when Dr. David W. Finlay will preside.

St. Thomas's Hospital.—The prizes will be distributed by Sir Frederick Pollock, Bart., in the Governor's Hall, at 3 P.M.

Westminster Hospital.—An introductory address will be delivered by Dr. T. Colcott Fox at 4 P.M. The prizes will be distributed by Dr. Troutbeck.

University College.—The session will be opened by an introductory address by Dr. Thos. Barlow, at 3 P.M. The annual dinner of the old and new students will take place in the General Library at 6.30 P.M., Dr. C. J. Hare presiding.

The following is the programme concerning the opening of the medical schools in the provinces:—

Birmingham Queen's College.—Address and presentation of prizes by Sir Wm. Turner, followed by a conversazione.

Bristol Medical School.—The session resumes on the 1st.

Leeds.—Dr. Broadbent will deliver the introductory address, followed by the distribution of prizes.

Liverpool University College.—The session resumes on the 4th, when Sir James Paget will deliver an address, and the Earl of Derby will distribute the prizes in St. George's Hall.

Manchester: Owens College.—At 4 P.M. Sir Spencer Wells, Bart., F.R.C.S., will deliver the opening address.

Newcastle-on-Tyne.—*University of Durham* resumes on Oct. 1st.

Sheffield Medical School.—At 5 P.M. Dr. Sidney Roberts will deliver the opening address.

Aberdeen University reopens on the 1st; *Edinburgh* on the 14th; *Dundee School of Medicine* on the 14th; *Glasgow University* on the 21st, when Professor Ferguson will deliver an address; *Anderson's College* on the 21st, and *St. Mungo's School* on the 22nd.

Royal College of Surgeons in Ireland Schools of Surgery.—The Schools of Surgery for the session 1890–91 will be opened on Oct. 1st by the President of the College, who will distribute the prizes to the successful students at the prize examinations held at the termination of the last session.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Diphtheria in the Barnstaple Rural District, by Dr. BRUCE LOW.[1]—Inquiry as to diphtheria in this district showed that the disease, under different names, had been prevalent during the six years 1884–89. The deaths had numbered 58 during that period, 22 of them being registered as diphtheria and other 22 as "croup"; and 56 out of the 58 had occurred in children from one to fifteen years of age. The diphtheria deaths and attacks occurred coincidently with others from "mumps," "croup," "laryngitis," &c., and the inference arose that the local throat illness was practically all of one sort. The non-recognition of this fact, however, had led to the disease lingering long in one and another locality, and to the absence of due precautions to prevent its spread. The disease prevailed in 18 out of the 36 parishes in the district; it had maintained itself for several years, and had latterly become more fatal; indeed, in 1889 the deaths amounted to 19, whereas the average number in previous years had been about 8. Some difference of opinion was experienced as to the character of some of the throat attacks. Thus one medical practitioner had noted a distinctly infectious quality attaching to cases of apparent tonsillitis and quinsy which he met with, and he believed that the local throat illness was communicable. Others, however, had not remarked this infectious quality, and hesitated to regard cases which did not present typical appearances as properly related to diphtheria. The former view seems in the main to be borne out both by the experience of this prevalence and of many other similar ones that have been reported on. "Mumps" was in several instances reported as having prevailed coincidently with or antecedently to diphtheria; and a story as to the disease in Parracombe refers to this, as also to several other interesting points. No diphtheria had been known there since 1886, but in 1889 three families comprising twenty-nine persons were severely affected, fourteen being attacked and nine dying. The first case was registered as "croup, asphyxia," and it was followed in three weeks by attacks at Voley Farm, under circumstances which make the transmission of the infection somewhat difficult to explain with certainty. A relative of the Voley farmer frequented the house, and within a couple of weeks the disease also broke out in his house three miles away, the first attack being in the person of a favourite child who sat every evening on his knee when he returned from Voley. The possibility of such method of transmission must be admitted, for it differs but little, if at all, from the transmission which is recognised to take place by means of such articles as clothing which have been in contact with the sick. Another spread took place where a lad with "mumps" slept with two twin boys; they then developed "mumps," but had also sore-throat. After seeming recovery, they went out and bathed in a cold mountain stream, and both sickened again, one lad dying of undoubted diphtheria. In no case could Dr. Low identify the disease with faulty sanitary conditions. It passed by utterly unwholesome conditions, but when it did appear it was distinctly aggravated by them, and especially by overcrowding and want of ventilation.

Fever in the Holywell Rural District, by Mr. SPEAR.—The occurrence referred to was limited to a hamlet consisting of three or four rows of cottages, and known as Northop Hall, where the sanitary conditions appear to be but little in advance of a condition of barbarism, and where the inhabitants have, as the report states, but little opportunity of acquiring habits of decency and cleanliness. Solid and liquid filth abounds, and water has to be sought at a quite unreasonable distance. In this locality enteric fever appeared in February, and it spread rapidly in the family affected, the father and two adult daughters dying. Then followed other attacks, until nineteen in all had occurred. The disease led to conditions of much distress, lack of nursing being a prominent feature. This latter condition

[1] Eyre and Spottiswoode, East Harding-street, E.C.; Adam and Charles Black, Edinburgh; Hodges, Figgis, and Co., Dublin; price 4*d*.

was, however, remedied later on by private charity, a trained nurse rendering help that was valuable and much appreciated. It is not often that so severe and sudden an occurrence of enteric fever ensues apart from pollution of water or milk; but in this case the amount of air pollution and the resulting specific contamination appear to have been quite exceptional. Indeed, Mr. Spear suggests that had not the neighbours become too terror-stricken to come near the infected locality, the mischief induced would probably have been far greater than it was. Amongst the circumstances that favoured both the spread and the fatality which marked this outbreak were the conditions inside as well as outside the homes of the people. In one house Mr. Spear found six children lying ill of fever. Separate beds for each patient were out of the question, and the tossing and raving of bed-fellows was singularly distressing. One child was covered with bruises, the result of lack of attendance and frequent falls out of bed in a state of delirium. Had a hospital been available these painful circumstances and the spread of the disease would doubtless have been largely avoided; and it is to be hoped that the present intention of the authority to make such provision will come to be actually accomplished. The disgraceful sanitary circumstances affecting this small community also call for immediate action. After such an experience as this fever outbreak has afforded, the responsibility resting upon the authority to adopt the needed sanitary measures is by no means a small one.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Birmingham.—The death-rate of this borough rose slightly during 1889, being 18·4 per 1000 living, and the increase was largely due to zymotic diseases, and especially to scarlet fever and diarrhœa. But it is satisfactory to find that Dr. Alfred Hill is able to record the lowest known death-rate from enteric fever, and at the same time the lowest in any of the twenty large towns and cities of England, a result which he holds to be due to the work that has been done in removing the conditions favourable to the spread of this infection. Indeed, the outcome of sanitary work in the borough is stated to be already a very substantial one. But there is still much to do; and Dr. Hill's reference to the "acres of middens and similar privies," which still tend to foul the atmosphere of Birmingham, reminds us of the astonishment which some foreigners who visited the city on the occasion of the recent British Medical Association meeting expressed as to this in so advanced a centre of our midland district. The infant death-rate was 174 per 1000 births, which is unquestionably high, and doubtless is connected, as is also the diarrhœa mortality, with the excremental tainting of air and soil due to midden privies. But, for all this, only three of the large English towns—namely, London, Norwich, and Bristol—stand higher than Birmingham in the zymotic mortality for 1889. Scarlet fever was very prevalent during the year; more so, indeed, than in any year since 1883. The total deaths from this cause were 156, and when it is remembered that in previous epidemic years the annual number of deaths has ranged from 326 to 995, it is easy to understand that much is now claimed for the influence of the isolation measures adopted in the sanitary hospitals of the borough. During 1875–78 the number of scarlet fever cases admitted to hospital was 525, and the deaths were 1701; during 1879–83 the admissions grew to 1952, and the deaths were 1175; but during 1884–89 the admissions rose to 3759, and the deaths were only 434. It remains, however, to be seen how far the improved results of the last period were due to the marked absence of scarlet fever during five years of that period, rather than to operations mainly limited to a single year. Certain it is that the time of the greatest aggregation of scarlet fever in hospital has not been, as some have contended, a period of danger to the borough; and, so far as the charting of the deaths shows, this aggregation did no particular injury to the hospital neighbourhood. We cannot further follow Dr. Hill in the interesting and complete report which he has prepared, and which tells the sanitary history of the year from a scientific as well as from a practical point of view.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 5483 births and 3550 deaths were registered during the week ending Sept. 20th. The annual rate of mortality in these towns which had declined in the preceding four weeks from 21·0 to 18·6 per 1000, rose again last week to 19·1. The rate was 16·2 in London and 21·4 in the twenty-seven provincial towns. During the first twelve weeks of the current quarter the death-rate in the twenty-eight towns averaged 19·1 per 1000, and was 1·2 below the mean rate in the corresponding periods of the ten years 1880–89. The lowest rates in these towns last week were 12·9 in Derby, 14·1 in Bradford, 14·4 in Bristol, and 15·3 in Norwich; the highest rates were 27·9 in Sunderland, 30·0 in Blackburn, 31·6 in Manchester, and 35·7 in Preston. The deaths referred to the principal zymotic diseases, which had declined in the preceding four weeks from 999 to 599, rose again last week to 680; they included 373 from diarrhœa, 76 from measles, 72 from whooping-cough, 63 from diphtheria, 49 from "fever" (principally enteric), 47 from scarlet fever, and not one from small-pox. The lowest death-rates from these diseases were recorded in Bristol, Derby, Halifax, and Birkenhead, and the highest in Manchester, Plymouth, Sunderland, and Preston. The greatest mortality from measles occurred in Plymouth, Wolverhampton, and Manchester; from scarlet fever in Liverpool; from whooping-cough in Huddersfield, Sunderland, and Norwich; from "fever" in Blackburn, Halifax, and Plymouth; and from diarrhœa in Sheffield, Hull, Sunderland, and Preston. The 63 deaths from diphtheria included 35 in London, 8 in Salford, 4 in Manchester, 4 in Cardiff, and 3 in Liverpool. No death from small-pox was registered in any of the twenty-eight towns. No small-pox patients were under treatment at the end of the week either in the Metropolitan Asylum Hospitals or in the Highgate Small-pox Hospital. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of last week was 1596, against numbers increasing from 1427 to 1539 on the preceding four Saturdays; the new cases admitted during the week were 211, against numbers increasing from 118 to 210 in the previous six weeks. The deaths referred to diseases of the respiratory organs in London, which had been 180 and 210 in the preceding two weeks, declined again last week to 187, and were 3 below the corrected average. The causes of 58, or 1·6 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Norwich, Salford, Hull, Sunderland, and in six other smaller towns. The largest proportions of uncertified deaths were recorded in Preston, Liverpool, and Bristol.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·2 and 17·8 per 1000 in the preceding two weeks, rose again to 19·6 in the week ending Sept 20th, and was 0·5 above the rate that prevailed during the same period in the twenty-eight large English towns. The rates in the eight Scotch towns ranged from 10·9 in Perth and 14·3 in Aberdeen to 18·8 in Paisley and 23·9 in Glasgow. The 506 deaths in the eight towns showed an increase of 43 upon the number in the previous week, and included 41 which were referred to diarrhœa, 25 to whooping-cough, 7 to scarlet fever, 6 to measles, 6 to diphtheria, 4 to "fever," and not one to small-pox. In all, 89 deaths resulted from these principal zymotic diseases, against numbers increasing from 65 to 80 in the preceding three weeks. These 89 deaths were equal to an annual rate of 3·4 per 1000, which was slightly below the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of diarrhœa, which had been 18 and 26 in the preceding two weeks, further rose last week to 41, of which 18 occurred in Glasgow, 8 in Dundee, and 6 in Edinburgh. The deaths referred to whooping-cough, which had increased from 14 to 25 in the previous three weeks, were again 25 last week, and included 15 in Glasgow and 4 in Edinburgh. The 7 fatal cases of scarlet fever exceeded by two the number in the preceding week; 3 occurred in Glasgow and 3 in Paisley. The 6 deaths from diphtheria were within 2 of the number in the previous week, and included 3 in Glasgow and 2 in Dundee. The 6 fatal cases of measles showed a further decline from recent weekly numbers, and included 3 in Glasgow and 2 in Greenock. The deaths referred to diseases of the respiratory organs in the eight towns, which had risen in the preceding three weeks from 56

to 84, declined last week to 74, but exceeded the number in the corresponding week of last year by 8. The causes of 44, or nearly 9 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined in the preceding three weeks from 23·8 to 17·3 per 1000, rose again to 19·4 during the week ending Sept. 20th. During the past eleven weeks of the current quarter the death-rate in the city averaged 20·2 per 1000, the rate for the same period being 18·2 in London and 16·6 in Edinburgh. The 131 deaths in Dublin showed an increase of 14 upon the number in the previous week; they included 4 which resulted from diarrhœa, 4 from "fever," 2 from measles, 2 from whooping-cough, 1 from diphtheria, and not one either from small-pox or scarlet fever. Thus the deaths referred to the principal zymotic diseases, which had been 11 and 15 in the preceding two weeks, declined again last week to 13; they were equal to an annual rate of 1·9 per 1000, the rate from the same diseases being 2·8 in London and 1·9 in Edinburgh. The deaths from diarrhœa, which had been 6 and 11 in the previous two weeks, declined last week to 4. The fatal cases of "fever," of measles, and of whooping-cough showed a slight increase upon those recorded in the preceding week. The 131 deaths in Dublin included 26 of infants under one year of age, and 32 of persons aged upwards of sixty years; the deaths of infants showed a slight decline, while those of elderly persons exceeded those recorded in the previous week. Four inquest cases and 5 deaths from violence were registered during the week; and 41, or nearly a third, of the deaths occurred in public institutions. The causes of 18, or nearly 14 per cent., of the deaths were not certified.

Correspondence.

"Audi alteram partem."

TENACITY OF VITALITY IN LARVÆ AND LOW FORMS OF ORGANIC LIFE.

To the Editors of THE LANCET.

SIRS,—In perusing Dr. Broadbent's able address at Birmingham my attention has been directed to some of the interesting if not novel facts and statements which he has submitted for our consideration. That "strychnine acts alike on all animals that have a spinal cord" is well known. But we have not been equally conversant with the statement that "when we leave the vertebrate series strychnine ceases to be deadly." We are told that blackbeetles consume it with impunity. Equally remarkable is the fact that "when dilute hydrocyanic acid is injected under the skin of a frog it hops about as if nothing had happened," while we know that a very minute quantity of strychnine—the thousandth part of a grain—will produce tetanic convulsions in a frog, and otherwise affect it in such a decided manner that the manifestations produced are justly regarded as a delicate physiological test of the presence of the poison. While engaged in verifying these experiments I have found that dipterous larvæ which feed on putrescent animal matter, more particularly the larvæ of the musca vomitoria and the sarcophaga carnaria, swim about freely for about one hour in dilute hydrocyanic acid, when gradually their movements cease and they die. They live actively and apparently unaffected for fully four hours in the liquor hydrargyri perchloridi of the Pharmacopœia, thus shaking our faith to a considerable extent in the prompt and universally deadly effect of one of the foremost of antiseptics. I should mention, however, that some of the larvæ, the more mature and fully developed, cease their more active movements in the perchloride solution in three hours; while others—the smaller, less developed, and more thread-like in appearance—possess the enormous power of resisting the destructive effect of the solution for more than five hours. This circumstance accords with our knowledge of the spores of bacteria, which resist the influence of agents destructive to their vitality for a very much longer period than the fully formed bacteria. My purpose, however, is not to try to establish any analogy between bacteria and larvæ, but to describe the experiments as they occurred, in the hope that they may be more or less interesting to at least a few of the readers of THE LANCET.

The larvæ of muscidæ have frequently been found in the ear and other parts of the human body, and have naturally been washed out with weak solutions of the perchloride of mercury as the best antiseptic, which lotions, I need hardly say, are as nearly as possible inert for such a purpose. It is of course as futile as it is customary in several parts of the country to apply lotions of corrosive sublimate to sheep infested with larvæ, and this is by no means an unimportant question, in consequence of the worry, mischief, and destruction they cause to flocks of sheep during the warm season of the year. Several agents kill the parasites very promptly; but for general use by farmers and sheep graziers, if chloroform is too dangerous an agent to place in their hands, the chloroform water of the Pharmacopœia strength recommends itself as being inexpensive, promptly effective, and innocuous. The larvæ are not only made torpid, they are actually killed by it.

The appended tabular statement shows approximately the destructive effect of different agents on the larvæ; but all the experiments as already noticed clearly prove that some of the larvæ, depending on their different degrees of development, are more resistant than others to the agents used for destroying them:—

Larvæ immersed in	chloroform	killed instantly.
"	chloroform water P.B.	killed in 5 minutes.
"	ess. anisi	" 8 minutes.
"	acid. carbolic liq.	" 8 minutes.
"	ol. rusci	" 12 minutes.
"	acid. hydrocyanic dil. P.B.	" 1 hour.
"	liq. carbonis deterg.	" 1 hour.
"	ol. menth. pip	" 1 hour.
"	ol. carbolic (1 in 16 olive oil)	" 75 minutes.
"	ol. eucalypti	" 2½ hours.
"	huile de cade	" 3 hours.
"	tinct. iodi	" 3½ hours.
"	sal. alembroth (1 grain in 2 oz. distilled water)	" 4 hours.
"	liq. hydrarg. perchlor. P.B.	Some of the larvæ were dead in three hours, others were quite active after five hours.

I am, Sirs, your obedient servant,

Alexander-sq., S.W., Sept. 22nd, 1890. D. MACKINTOSH, M.D.

"THE LEUCOCYTE AS THE SURGEON'S FRIEND."

To the Editors of THE LANCET.

SIRS,—Dr. W. J. Collins, in an eloquent letter (*vide* THE LANCET, Sept. 13th), requests us to make an *amende honorable* to the leucocyte, insinuating that the latter has been unwittingly injured or despised through ignorance. The leucocyte is at present in a sad plight. Its proud position of an organiser and regenerator of new tissue which it had arrogantly occupied for many years has been rudely shaken by the *savants* of the Tenth International Congress. It now holds, as far as inflammation is concerned, the modest position which Virchow years ago assigned to it. Messrs. Ballance and Sherrington removed all the charm which hovered around the leucocyte, and Professor Ziegler, who once raised it to the greatest power and dignity, and was its truest friend, gave it the *coup de grâce*. The leucocyte now clings to the title of "phagocyte," which Metchnikoff conferred on it, and which others since have always been ready to defend. In this capacity "it should be welcomed as the surgeon's friend," so Dr. Collins pleads; however, he wisely adds—"if Metchnikoff's researches are unambiguous." Therein the difficulty lies. *A priori*, especially after a careful study of Virchow's cellular pathology and the recent researches of Messrs. Ballance and Sherrington, we should be inclined to deny this phagocytic action. Again, good authorities believe that in claiming the above title the "lowly leucocyte" is demanding more than is due to it. This is not the place to discuss all the points for and against this matter, but a few suggestions will show that it is by no means unambiguous. Professor Robert Koch, versed in all matters appertaining to bacillary life, is a strong opponent to Metchnikoff's theory, and maintains that the living bacillus attacks the leucocyte, and then destroys it.[1] Again, Flügge[2] and Baumgarten[3] showed that the "phago-

[1] Cf. his researches on the bacillus of mouse septicæmia.
[2] Zeitschr. für Hygiene, 1888, iv.
[3] Centralbl. für Klin. Med., 1888, 29.

cytes" can only devour degenerated or dead anthrax bacilli, so that they cannot be considered in the light of destroying agents, but only as the burial ground of the deceased organisms. Metchnikoff's strongest argument, based on anthrax inoculations of frogs, has been completely refuted by Petruschky.[4] He showed firstly that, on injecting anthrax bacilli into the dorsal lymph sac of a "cold" frog, changes of degeneration and dissolution are chiefly observed in the *extra-cellular* bacilli. His researches, therefore, have removed the chief support from the phagocytic theory. Petruschky further demonstrated that a frog kept at the ordinary temperature of a room remains immune against anthrax, and that the bacilli and their spores injected into the cutis or lymph-sac are killed through the action of the lymphatic fluid, and then taken up by the leucocytes. On the other hand, if after the inoculation the frog be kept at a temperature of from 30° to 35° C., it has no longer immunity. Nissem,[5] who worked under Flügge's direction, has proved that the plasma constituents of the blood are the chief agents concerned in the destruction of bacteria, and that plasma free from corpuscles possesses as great a destructive power as blood. Nutall, again, has shown that in blood, lymph, or aqueous humour, anthrax bacilli completely degenerate, without the cellular elements playing any part in the process. Lastly, an allusion should be made to Wyssokowitsch's well-known investigations. It is thus seen that we have no right to accept Metchnikoff's theory as yet. In fact, the scientific experience seems to be rather opposed to it. It has yet to be proved that—(1) phagocytes in Ruffer's and Metchnikoff's sense really exist; and (2) if so, that they are really leucocytes, before we apologise to the "lowly leucocyte."

I am, Sirs, yours faithfully.

A. A. KANTHACK, M.B., B.S., F.R.C.S.

St. Bartholomew's Hospital, Sept. 21th, 1890.

SANITATION AT SEA.

To the Editors of THE LANCET.

SIRS,—As an ex-surgeon in the mercantile marine I am much interested in your able leading article in THE LANCET of Sept. 20th relative to the sanitary arrangements as carried out on our large steamships. Some fourteen years since I held the appointment of surgeon in the P. and O. Company's service. It was then the custom to provide medical officers in that service with printed forms to be filled up during each voyage, stating fully the sanitary condition of the ship &c. Upon arriving home from Calcutta in December, 1876, I received a telegram from the chief office of the Company requesting me to present myself before one of the managing directors. I was then politely informed that as I had thought fit to report as very defective the sanitary condition, especially as to ventilation, of the ship I was attached to, the Company had no further need of my services. The senior surgeon of the Company in London actually informed me that unless I withdrew my report concerning the ship he did not think I should retain my appointment. This, of course, I courteously declined to do, naturally supposing that my appointment was *something* more than a sinecure. Until ship surgeons are appointed by the Board of Trade and made responsible to that Board alone, and perfectly independent of the shipping companies, this state of affairs must continue to flourish.

I am, Sirs, yours faithfully,

EDWD. A. PIGGOTT, L.R.C.P. & S. Edin. &c.,

Late Surgeon P. and O. Company.

Clare, Suffolk, Sept. 22nd, 1890.

To the Editors of THE LANCET.

SIRS,—Your Special Commission will no doubt do good work in drawing the attention of the public to some of the insanitary conditions to which seamen and firemen are exposed. As long as the evolution of the modern steamer proceeds upon the present lines of naval construction insanitary conditions must inevitably prevail. The accommodation for the crew being almost always in the forecastle of the ship, the difficulty of efficient ventilation in all weathers becomes enormous. Take, for instance, the case when the ship is diving into a head sea, and tons of water are pouring over the forecastle continually; cowl ventilators of the usual kind are impossible, for they would be broken off and carried away at once, leaving so many leaks in their place. The only possible means would be by forcing in air from the engine-room, much too costly a process for anything but a war ship. But too often, however, the insanitary condition of the sailor's surroundings is of his own creating. Sailors are not bound to foul their own nest by bringing into it such animals as monkeys &c., nor are they bound to damage their health by such reckless debauchery as they usually indulge in when on shore. Drink, venereal disease, and their results form by far the largest part of the cases of illness occurring at sea. How often such cases occur the officers of the ships alone know, and the general public can have no remote idea. Recruited, as they mostly are, from the most improvident and dissolute classes of our seaports, firemen will go on breaking down and dying after a few years, until a vastly different state of morality comes to prevail among them. That the fireman's work is heavy cannot be denied, but his pay is good—£5 per month, with no board and lodging to pay for, must, at any rate, be considered good pay. But his improvident habits make even this all too little. I have known firemen after an Indian voyage earn from £15 to £30, who in three days after their arrival in England had dissipated the whole. The report of your Commission would lead to the erroneous inference that the fireman's work is always performed under conditions of intense heat. In the Suez Canal and Red Sea or in the tropics, when there is no wind, this is certainly the case; but if there is any breeze the ventilators are trimmed to the wind, and the condition is at once altered. Indeed, as a rule, in temperate climates the volumes of air poured down into the stokehole by the enormous ventilators render it quite cool, while the adjoining engine-room may still be very hot. The door communicating between the two has to be kept shut to prevent the strong draught blowing coal-dust all over the machinery. The system by which, as the report puts it, incompetent men are smuggled on board at the last moment is again due to the men themselves. The crew is engaged at the Board of Trade office generally a clear day before the ship sails, and the crew are ordered to be on board at a certain time. When the ship is about to leave the dock the hands are mustered, and it is generally found that there are some absentees. In the case of a steamer time is really money, and the first men available jump on board from the pier-head to replace the deserters. At sea the decks are washed every morning at 6 A.M. with the hose, and the closets are abundantly flushed out daily at this time. With regard to personal cleanliness, such a thing, as arule, never enters a fireman's head until the end of the voyage. Firemen have told me that the coat of grease and coal-dust which they get upon their backs is as good as another garment if they have to go on deck. This may at any rate serve to explain the apparent recklessness shown by firemen in crossing the deck without adding anything to the clothing which they wear on watch. A loose open shirt is generally the only protection for the chest against any weather which may prevail on deck.

While not disputing in the least the fact that firemen soon become broken down, I would suggest that your commission might investigate how much of their ill-health is really attributable to the work itself, and how much to their dissipations. As a case in point I would instance a young fireman under thirty whom I have been attending for some time, who within three months has shown symptoms of chronic rheumatism, syphilitic periostitis, violent syphilitic iritis, and granular kidney, and is incapable of any heavy work in future. One other instance out of many must suffice. Within an hour of the arrival of a steamer at Constantinople four firemen were in a state of intoxication, accompanied by maniacal excitement. They became mutinous, striking the officers, and acting like so many wild beasts, so that assistance from the shore had to be obtained to secure them. All this was caused by some vile spirit, which they had obtained from a bum-boat in exchange for their clothes. The men never really recovered from the debauch for the rest of the voyage. Reform is urgently needed, but the task is difficult, and the labour herculean. If, as a result of the attention drawn to the subject in your columns, even the slightest improvement takes place, benefit would be conferred on the whole nation.

I am, Sirs, your obedient servant,

Penarth, Sept. 21st, 1890. ARTHUR J. MOSS, M.B.

[4] Dissertation, Königsberg, 1888.

[5] Zeitschr. für Hygiene, 1889, vi.

THE REGISTRAR-GENERAL'S DECENNIAL REPORTS.

To the Editors of THE LANCET.

SIRS,—In the article, published in to-day's LANCET, devoted to opening a discussion as to whether it is desirable that these reports should be modelled on Dr. Farr's plan, who deemed it essential for the purposes of science that the males and females should be tabulated separately in the districts, or on that of the present Registrar-General, who in his report (1871–80) has mixed them together under the head "persons," the writer has made some remarks which need correcting at once, as they are misleading and contradictory. He says that in the paper I sent to Leeds on the subject I specially complained once more of not being able to ascertain the deaths of males and females from cancer and childbirth in the districts for the ten years 1871–80, and then remarks: "As regards cancer the charge is well founded, inasmuch as the report he complains of only gives the deaths of 'persons' from that disease in each district. .....With regard, however, to the deaths from childbirth Mr. Haviland is singularly unhappy in his ground of complaint, since there can be no difficulty in attributing such deaths to the right sex, although they may appear in a table of 'persons.'"

If my charge be well founded for cancer, it is equally well founded in the case of childbirth. In the case of cancer certainly we can neither separate the deaths of males from those of females, nor can we tell how many males and how many females make up the given mean aggregate of "persons" living during the ten years 1871–80. The only thing we can do is to get the *death-rate* of "persons" in each district, which is a useless fact when we want to know what the *death-rates* are among females or among women at certain age periods—say, at thirty-five years and upwards. In some districts during the twenty years 1851–70 cancer was twice as prevalent among females as it was among males, in other districts it was less so; in some districts where cancer among females was increasing in the second decennium, phthisis among females was decreasing, and *vice versâ*. Cancer is under investigation, and we cannot afford to lose a single fact in its natural history. We want all the facts referring to males and females separately, and we want them also separately at different age periods. With regard to childbirth, we certainly have the number of deaths from this cause amongst females, because it is inevitable; but where, in the report complained of, are we to find the number of females among whom they occurred, which is the other necessary factor for ascertaining the *death-rate* among women from this cause? Neither the calculating Mr. Bidder nor the calculating machine at Somerset House could extract the number of *females* from the mean populations of "persons" given in the district tables during 1871–80. We have the number of deaths among females in the solitary instance of childbirth, but where are the female populations among whom the deaths occurred? Without the population-fact the death-fact is worthless.

These Decennial Reports were intended by Dr. Farr to advance the science of medicine and to lend their aid to the study of diseases among males and females separately; they were never intended for the emergencies of sanitary authorities or the Medical Department of the Local Government Board except as works of reference when studying the history of diseases in England and Wales among males and females. The weekly, quarterly, and annual reports issued by the General Register Office contain all the facts required for their practical and immediate use.

I remain, Sirs, yours faithfully,

Liverpool, Sept. 20th, 1890. ALFRED HAVILAND.

CONSULTATIONS WITH HOMŒOPATHS.

To the Editors of THE LANCET.

SIRS,—Having been engaged in the more exciting occupation of shooting grouse in Scotland, I had not an opportunity of reading Mr. Brudenell Carter's letter in your impression of Aug. 16th until to-day. As his letter is dated Aug. 12th, the day when grouse shooting commences, it may not be inappropriate that mine is written on the day when partridge shooting begins. As I am now resting from the fatigues of my outing on the moors in this little seaside village I have not at hand the published records of the controversies respecting homœopathy in which I have taken part, so have to trust to my memory.

Mr. Carter says: "Dr. Dudgeon's statement that I have 'expressed' the opinion which he attributes to me [that homœopaths are either knaves or fools] is therefore an absolute falsehood, and the fact of his having given utterance to it permits me to suffer him to fall out of the discussion, and absolves me from the necessity of taking heed of his words or actions from this time forth for evermore." The readers of Mr. Carter's former letter in THE LANCET can hardly have forgotten that he stated (I forget his precise words, but this is their meaning) that homœopaths were either sincere believers in an absurdity or fraudulently professed belief in what they know to be false. This, I believe, most persons will agree in thinking is tantamount to saying that they are either fools or knaves, so where the "absolute falsehood" comes in I am at a loss to discover.

If there ever was any doubt that "R. B. C." and Mr. R. Brudenell Carter are identical, Mr. Carter has betrayed his identity with "R. B. C." in the same way that the Marquis of Argyle revealed himself to Dugald Dalgetty, for none but Mr. Carter—not even the medical periodicals of his own persuasion—could speak well of "R. B. C.'s" contributions to the discussions in *The Times* and *National Review*. If "R. B. C." is not Mr. R. B. Carter no doubt he would have denounced my supposition that they are one in his vigorous and genial style as an "impudent falsehood."

Mr. Carter says: "His [i.e., Dr. Dudgeon's] conviction on the point, in the absence of any evidence, is precisely analogous to his (presumed) conviction that several hundred symptoms, including 'disinclination for food after a meal,' may be caused by the ingestion of a decillionth of a grain of charcoal." Now as I know of no evidence whatever of any symptoms caused by the ingestion of a decillionth of a grain of charcoal, and therefore have no conviction on that point, and as I have abundant evidence and a well-founded conviction that "R. B. C." is Mr. Carter, these two convictions are not only not "precisely analogous," but have no analogy whatever. *Apropos*, I would remind Mr. Carter of his own words, "The first and most essential attribute of the scientific spirit is reverence for and devotion to truth," which he seems to have forgotten almost as soon as he wrote them.

That I did mildly hint in the *odium medicum* discussion at a correspondence between the initials "J. C. B." and those of Dr. J. C. Bucknill is true; but that I did so "impudently," as Mr. Carter alleges, is inexact, for I said that the coincidence was no doubt accidental. What led me to mention this coincidence was the fact that Dr. Bucknill had some years previously proposed a resolution in the College of Physicians of a similar description to that moved by Mr. Carter in the Ophthalmological Society, which was so cruelly frostbitten by the Society.

It is curious now to observe that though Mr. Carter, in his resolution at the Ophthalmological Society, wished the Society to say that "it is inexpedient and improper for its members to engage in professional consultations with avowed homœopaths or with persons holding office in homœopathic institutions," he now declares himself ready to consult with those homœopathic practitioners whom he considers respectable and "upright men." He does not say how he is to be assured of the respectability of the homœopaths with whom he will condescend to consult; but perhaps a certificate from two magistrates or three or four clergymen would satisfy him. Well, if certificates of character are to be required before medical men will meet one another, let us have them all round; and before we seek the assistance of an oculist for our patients let us demand certificates of his professional courtesy. But that is a quality in which Mr. Carter does not particularly shine towards either his opponents or his friends of the Ophthalmological Society, whose action in rejecting his anti-homœopathic resolution he says is an instance of "cowardice masquerading as discretion," and "an advertisement intended to make it known in homœopathic circles that some ophthalmic surgeons are ready to sell themselves to homœopaths for a sufficient consideration."

Mr. Carter says "a medical practitioner has no moral right to engage in a consultation" with another who differs from him on some therapeutic points, as it "can be no better than a mockery which is calculated to deceive the patient and the public." That is not my experience, and I remember having a consultation in an eye case with

the late Mr. Critchett, which was attended with very satisfactory results to the patient and his doctors.

Mr. Carter thinks he has got rid of me "for evermore" by bringing an unfounded accusation of "absolute falsehood" against me, but he goes further, and seeks to exclude from the discussion all homœopathic practitioners by saying that "the question is not one for them but for us"—a sentiment which, methinks, will hardly be endorsed by you, with your excellent motto, *audi alteram partem*.

I think Mr. Carter makes a mistake in supposing that his beliefs and prejudices are the standard whereby the whole medical profession is to regulate its conduct towards those who differ from them on therapeutic matters; and he will hardly increase the estimation in which the profession is held by the public by his wholesale charges of "fraudulent" conduct and sordid motives.

I am, Sirs, yours obediently,

Seaview, Sept. 1st, 1890. R. E. DUDGEON.

THE DIAZO REACTION.

To the Editors of THE LANCET.

SIRS,—Noticing Dr. Knight's article in THE LANCET of Sept. 20th, regarding the value of the diazo reaction, I beg to state that a few weeks ago I found it very useful in helping to establish the diagnosis of enteric fever. The case was to all intents and purposes one of ordinary summer diarrhœa when I first saw it, there being no typical stools and no pain on pressure in the right iliac fossa, and only slight elevation of temperature. After checking the diarrhœa, I detected slight gurgling in the cæcal region and a certain amount of tympanites, which made me suspect typhoid. I therefore had the following test solutions prepared:—Fifty cc. of hydrochloric acid made up to 1000 cc. with water, and sulphanilic acid added to saturation. To 200 cc. of this mixture 5 cc. of a ½ per cent. solution of sodium nitrite were added, and the resulting fluid added to the urine in equal parts. In about three hours a decided crimson colour was developed. Thinking this delay in the production of the crimson colour was due to some defect in my test, or that it might result from the exposure to the air of the components of the test solution, I added some of the latter to an equal part of normal urine, as a control experiment, with the result that only a deeper yellow tinge was developed in the normal urine in about three or four hours. Shortly after making this test the patient showed further signs, of a less equivocal nature, of enteric fever, and such the case eventually turned out to be. I would very much like to know whether the delay in getting the characteristic crimson colour has been noticed by your correspondents, as in every test I made in the above case I was unable to obtain the reaction until after the lapse of several hours after adding the test solution to the urine.

I am, Sirs, yours faithfully,

GEORGE C. STEPHEN, M.D., L.R.C.P., L.S.A.

Sutherland Avenue, W., Sept. 19th, 1890.

INTUBATION OF THE LARYNX.

To the Editors of THE LANCET.

SIRS,—Most of those who have employed intubation of the larynx complain of the difficulty of removing the tube, and as in order to do this it is necessary to find the very small aperture of the tube and to insert the tip of the extractor sufficiently but not too deeply into it, there can be no question that it is both difficult to do and dangerous if bungled from the blocking up of the air passage. May I ask whether it has occurred to anyone to use a powerful electro-magnet of suitable shape for this purpose—the tube of course being of iron—plated? I should think that the same instrument might serve for an introducer. If the aperture of the tube were to be between the poles of the horseshoe magnet, there would be no obstruction to the air while the tube was being dropped into the larynx, and when in its place the current could be broken and the introducer removed, leaving the tube *in situ*.

I am, Sirs, yours truly,

THEODORE MAXWELL, M.D.

Woolwich-common, Sept. 22nd, 1890.

NOTIFICATION: IS IT LIKELY TO SUCCEED?

To the Editors of THE LANCET.

SIRS,—If there is one thing more than another which would be likely to bring about a cry for the repeal of the Notification Acts, it is the inclusion of whooping-cough and measles in the list of notifiable diseases, both on account of the expense connected therewith and the small result likely to be obtained therefrom. In the early stages neither of these diseases is easily recognisable, at any rate by untrained persons, while the capability of reproducing the disease is undoubtedly present. As an instance of this I will cite the following two cases. At a large children's party one child appeared with one or two spots on the forehead, but nothing was thought of the matter till one child after another fell ill with the measles, and within one month nearly every child that had been present at this party was laid up. On another occasion one child came to a party with a slight cough, and as a result several who were present fell sick with whooping-cough of a very severe type, and two or more nearly succumbed. Of course, there is great risk of infection from mild unrecognised cases of diphtheria, enteric and scarlet fevers, but the deaths from these diseases is not so great as they are from the first two mentioned. The causes of the first are unknown, while those of the latter are well recognised, and to do away with or even permanently lessen infectious disease we must do away with the causes.

I am, Sirs, yours obediently,

Surbiton, Sept. 22nd, 1890. F. P. ATKINSON.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Scarlet Fever.

THE prevalence of this disease continues unabated; indeed, a slight increase has lately taken place in the number of cases. The Health Committee are considering the advisability of providing another ward in the City Hospital, and though practically almost all the cases are treated in the hospital, there is great difficulty in keeping pace with the number of fresh cases which are constantly occurring.

Queen's College.

The conversazione fixed for Oct. 1st is looked forward to with much interest. The enthusiasm is largely due to the fact that Sir William Turner has promised to be present to distribute the prizes, and also to the spirit which has lately grown up in the arrangement of the College. Old things have passed away, and traditions have been ignored in the administration of the medical department. The result has been additional convenience and comfort all round both to teachers and students, with every prospect of rapid and substantial growth in the status of the College.

Drink Dominant.

Of 61 cases entered at the Police-court on the 22nd inst. 31 were charges of drunkenness, with its concomitants. Of this number 23 were men and 8 were women. One woman aged twenty-six had been 48 times before the Court; another woman aged eighty had been 36 times in custody. Of the total number of drunkards 15 were under thirty years of age. Evidently the best governed city in the world has yet a large task before it in the cultivation of good manners, and the removal of such a hideous blot upon its civilisation.

Charges against the Health Committee.

In reference to the complaints of maladministration against this committee connected with the interception department, after a full and patient investigation, it has been shown that there has not been sufficient proof of incompetency or neglect as formulated. The failure has yet to be reported to the council, but there is every reason to believe that the confidence previously existing in the committee will be unshaken, and that, as a body of hard-working citizens devoting a large amount of time to the public good, they will be accredited with unsullied motives in the discharge of their duties.

Birmingham, Sept. 24th.

LANCASHIRE AND CHESHIRE.

(FROM OUR OWN CORRESPONDENT.)

Prevalence of Scarlatina in Liverpool.

SCARLATINA has increased to such an extent that the Health Committee are taking stringent precautions against its being further spead through this densely populated city. Although much has been done by the removal of "rookeries" and the demolition of insanitary property to remove some of the evils of the past, still much remains to be done, and before pulling down any more labourers' dwellings it will be desirable to provide new homes of an improved description. Until this is done, removal in one spot will mean overcrowding in another. Meanwhile, it was resolved at a special meeting of the Hospitals' Committee on the 22nd inst. to erect on the Parkhill estate, which is the site of an infectious disease hospital, two temporary separate pavilions, each capable of containing twenty-five patients. These, with some alterations in the existing hospital, will, it is hoped, suffice to provide, at least for the present, sufficient accommodation to enable the medical officer of health to cause the isolation of infected patients from crowded districts.

New Parochial Hospital for Toxteth Park.

A large proportion of South Liverpool is comprised in the extra-parochial district of Toxteth Park, which has its own board of guardians, its own medical officer of health, and its own registration officers. The name is rather a misnomer now, since what was really and truly a park stocked with deer less than a century ago is now a wilderness of streets, many of which are slums tenanted by the very lowest class. The Local Government Board inspector has repeatedly urged upon the guardians the necessity for increased hospital accommodation, and on the 17th a special meeting of the latter was held to consider the subject. Various plans which had been prepared by different architects were considered, and ultimately the following resolution was carried: "That all the plans of the competitors, with a copy of the report on each and the instructions to architects, be sent to the Local Government Board, with a request that they will favour the guardians with an opinion as to their comparative merits, having regard to the regulations of the Local Government Board, and informing the board that the guardians would desire such a modification of any plan adopted as would limit the cost to a sum of £16,000, or a sum approximating thereto." Another resolution, to the effect that the plans of Messrs. Ellison and Sons commended themselves to the judgment of the guardians, was also carried.

Sailors and Firemen.

The report of THE LANCET'S Special Commissioner has attracted much attention here, and has been reproduced in the local papers with editorial comments. Allusion has been frequently made in previous letters to the sanitary condition of the ships and steamers which enter and leave the port of Liverpool. Thirty years ago waterclosets were luxuries limited to the captains and officers, and considered quite superfluous to the inhabitants of the deck-house and forecastle. It is to be feared that some relics of this barbarism still linger here and there. As regards firemen, it was felt when the recent strike occurred that they at least deserved consideration, and that £4 10*s.* per month seemed small for such life-shortening work. And yet it would appear that there is no difficulty in obtaining a sufficient number of men. Much might undoubtedly be done towards securing better ventilation in the stoke hole, the temperature of which varies not only according to the construction of the vessels, but according to the intelligence and humanity of the captain and officers.

Urgent Want of a Hospital at Blackpool.

An inquest was held at the Preston Infirmary on the 11th inst. upon the body of a foreman platelayer, one of whose legs had been run over two days previously at the Central Railway Station, Blackpool, by a light railway engine. He was carried by rail to the Preston Infirmary, where he was admitted just two hours and a half after the accident. The leg was amputated, but he was exhausted by shock and loss of blood, and died three-quarters of an hour after the operation. The jury censured the authorities of Blackpool for not having provided hospital accommodation, and the coroner, Dr. Gilbertson, remarked that within the last two months two similar riders to verdicts had been made in two other cases. It is much to be regretted that Blackpool does not possess even a cottage hospital, since this might be the means of saving valuable lives. From the Medical Directory it appears that Blackpool had at the last census a population of over 14,000, which has probably largely increased since then; it possesses also fifteen medical practitioners. It may be that hospitals have been provided in some instances less for the good of the public than for the praise and glory of some individuals. But now that fatal accidents have occurred within two months, in any or all of which the fatality might have been averted by prompt treatment ready at hand, the medical profession and the public of Blackpool can have no excuse for not at once taking in hand so urgently needed a work. Not a moment's time should be lost in erecting a temporary iron hospital, to be replaced by a permanent one when funds are forthcoming to permit of this work being done.

The Chester Workhouse.

At the usual fortnightly meeting of the Chester Guardians on the 23rd inst. it was announced that Dr. Downe, medical inspector of the Local Government Board, had paid a surprise visit to the workhouse and reported unfavourably of the children's hospital, where he found several children in a neglected state. There would appear to have been several previous complaints, and the local papers allude to the matter as another scandal at Chester Workhouse. Further comment will properly be deferred until the result of the inquiry of the Local Government Board inspector shall have them made known.

Liverpool, Sept. 24th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Newcastle Hospital Sunday Fund.

THE twentieth annual meeting of the Newcastle-on-Tyne Hospital Sunday Fund was held last week. The committee reported a substantial increase in the last collections both as regards the churches and factories, the amount of the former being £2089 and the latter £2194, while there was also received through outside channels £225, the total united collection being £4508—the largest sum ever received by this fund, the next largest having been realised in 1883. The committee report that the workmen's contributions are still improving. The total amount collected by the Newcastle Hospital Sunday Fund since its establishment in 1870 is £67,522. The number of letters of admission received and distributed since the establishment of the fund has been 74,412.

Generous Bequests to Northern and other Charities.

The late Mr. R. W. Hollon of York, who was Lord Mayor of that city in 1855, and well known in the north as a wholesale druggist, gave in his lifetime over £7000 to the poor of Morpeth; and his will, which has been lately proved, benefits the following northern charities:—Newcastle Infirmary, £1000; Victoria Blind Asylum, Newcastle, £500; Northern Asylum for Deaf and Dumb, Newcastle, £500; Convalescent Home, Whitley, Northumberland, £500; Durham Infirmary, £500; and Morpeth Dispensary, £200. The other bequests, amounting in the aggregate to £12,000, include the following: York Dispensary, Hull Infirmary, Epsom Medical College, Scarborough Sea-bathing Infirmary, Harrogate Bath Hospital, Buxton Hospital, and the Devonshire Hospital. The residue of his estate, which is considerable, is to be divided amongst nine charitable and religious societies.

Home for Crippled Children, Wallsend.

The Home for Crippled Children at Wallsend, which was established a short time ago, has been carried on so far principally by the generosity of Mr. Hilton Philipson of Newcastle-on-Tyne. Last year he subscribed £500, and he has just sent a cheque for £1000 to be invested for the benefit of the Home.

Wallsend Infectious Diseases Hospital.

So much difficulty has been experienced in obtaining a site for a joint infectious diseases hospital for the densely populated districts of Wallsend and Willington Quay that the matter has been before the public for seven or eight years, and there does not seem to be much prospect

of its being settled. The local board have at last asked the Local Government Board to send down a representative to select a site.

Opening of the Lambert Hospital, Thirsk.

The opening ceremony in connexion with the Lambert Memorial Hospital, Thirsk, took place last week under the most favourable auspices. The hospital, which is designed for the accommodation of persons residing in the parishes of Thirsk, Sowerby, and neighbourhood suffering from sickness or accident, has been erected by Mrs. Lambert of Sowerby, in memory of her late husband's father, Mr. Wm. Lambert, who was for many years a medical practitioner in Thirsk; also in memory of her late husband, Dr. W. J. Lambert, and her uncle, Dr. James Whitehead, late of Manchester, who was a medical pupil of Mr. Lambert, and her son, Mr. Wm. Lambert, barrister-at-law. The cost of building and furnishing the hospital has been about £2000. Mrs. Lambert has also generously provided for its endowment at a cost of about £7000.

Stockton.

There has been during the last week or two a rather serious outbreak of typhoid and scarlet fever in Stockton; about forty cases of the former are under treatment. At the last meeting of the Stockton guardians permission was given at the instance of the British Dental Association for a dental surgeon to make an examination of the workhouse children's teeth for scientific and statistical purposes, but it is to be hoped that the poor children will also benefit thereby.

Middlesbrough Fever Hospital.

At the last meeting of the Fever Hospital Committee of the Middlesbrough Corporation, Dr. Malcomson, the medical officer of health, reported that the hospital was very full, so that it could not at present accommodate any more typhoid fever cases. The corporation is seeking powers to obtain a loan for the purpose of extending the fever hospital; Colonel Ducat and Dr. Barry have already instituted an inquiry on behalf of the Local Government Board into the ground of the application, and have intimated that they will report thereon.

The Disasters at Newcastle-on-Tyne.

A very sad and fatal accident took place at Messrs. Mawson and Swan's chemical establishment in Mosley-street, in this city, on Tuesday afternoon last, by which two firemen lost their lives and likewise six or seven others are in jeopardy, and their condition gives the utmost concern. The accident was caused by the breakage or explosion of a carboy of nitric acid, which caused the premises to be filled with dense fumes. An alarm of fire was raised, although there did not appear to be any actual flame. The fire brigade soon arrived, and although the firemen were warned of the danger, they made their way into the premises with a hose and remained until forced to retire by the suffocating fumes. The two foremost firemen died in about four hours after their exposure, and Superintendent Matthews and several of his men, though severely injured, are progressing favourably. The symptoms, as might be expected, have been dyspnœa, pneumonia, and collapse. The cases are being treated at the central police station by the police surgeon, Mr. Baumgartner, and others. Another serious accident (fortunately so far not fatal) took place on the Tyne opposite the Elswick works on Wednesday morning, whereby at least fifteen workmen have been seriously injured and scalded, but are now doing well. A war ship, the *Pandora*, was undergoing some repairs, when, without warning, an explosion of her boiler took place, scattering disaster around. The injured were for the most part promptly removed to the Royal Infirmary, where they received immediate attention.

Newcastle-on-Tyne, Sept. 25th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

The City and District Water-supply of Edinburgh.

OWING to a discussion which took place at the Town Council as to the engineers appointed to examine into and report on the question of the water-supply of the city and district, and the instructions given to them, the Works Committee have decided to appoint a third engineer. The contention about the two engineers, whose names have already been given here, was that the measures advocated by them were too extensive, and there is a party in the city and the Council who think that all that is needed for years to come is that waste should be checked.

The Edinburgh Board of Supervision and Cholera.

The Board of Supervision has issued to the local authorities in Scotland within whose district there is a port or harbour instructions as to the steps to be taken to prevent the entrance of cholera into the country. The officer of Customs has in the first instance to ascertain whether ships arriving from foreign ports are infected, and he has to acquaint the local authority of the arrival of any such. Provision is also made that, where it is considered desirable, the local authority's medical officer may visit and examine ships not detained by the Customs officer. Instructions are also given as to the providing a place for mooring infected vessels, and also as to suitable accommodation for the reception and isolation of affected persons. The Board expresses the hope that local authorities on the seaboard will use the utmost vigilance in the matters referred to.

Health of Edinburgh.

The mortality last week was at the rate of 15 per 1000. Out of the total of 76 deaths, 27 were due to diseases of the chest and 4 to zymotic diseases. The intimations included 6 cases of typhoid, 2 of diphtheria, 29 of scarlatina, and 8 of measles.

The Dean of Guild Court and the Managers of the Edinburgh Royal Infirmary.

As was stated last week, the Dean of Guild Court has expressed its disapproval of the plans submitted to it by the managers of the Royal Infirmary for a nurses' home, but the question was left open. On Monday last a conference took place in the grounds of the infirmary between the managers and members of the Court. The latter objected altogether to the proposed space being occupied by buildings, as it implied a departure from the pavilion plan on which the hospital was originally constructed, and as the area was intended as a breathing space. They also objected to the proposed building being built as a hollow square, as this form of construction prevented free ventilation. Objection was also taken to the bedrooms being furnished with fixture basins. It was pointed out to the members of the Court that there was great need for the building, and that the proposed site was the only available ground the managers had. It was suggested that a Bill might be promoted to acquire property in Lauriston-lane, adjoining the infirmary. It has also been mentioned here that the buildings have really been commenced, and this, it appears, implies a breach of the Police Act, and has been reported to the Procurator-Fiscal. The Court is to give its decision later in the week; but, as already hinted, it is very doubtful whether the Court really has the power to prevent the buildings being proceeded with, should the managers decide to disregard its disapproval.

Resignation of Dr. Christie.

Dr. James Christie has resigned the chair of Physiology in Anderson's College, which he has so long held with acceptance, and is at present acting as medical officer of health for the city of Glasgow, during the temporary absence of Dr. Russell, who is in Canada. We hear that Dr. Christie is a candidate for the post of medical officer of health for Renfrewshire.

Sept. 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Visit of the Queen of Roumania to the Cripples' Home, Bray.

HER MAJESTY the Queen of Roumania, who has been staying at Bray, a fashionable seaside resort about a dozen miles from Dublin, visited last Saturday the Cripples' Home. On her arrival, accompanied by Lord and Lady Meath, she was presented with a bouquet by three of the smallest inmates of the Home. In the infirmary, Her Majesty showed her sympathy by kneeling down and kissing two of the little sufferers as they lay in their beds. Having expressed a wish to endow a bed in the institution, Her Majesty left amid the cheers of the inmates.

Suicide and attempted Murder by a Lunatic.

On Monday a farmer named Jones, twenty-six years of age, residing at Bahana, in the county Wicklow, attempted to poison his wife and five children, and afterwards committed suicide by swallowing a quantity of strychnine. He appears to have suffered from occasional attacks of insanity, but his wife was not apprehensive of any danger occurring to herself or children. He had obtained some strychnine, which his wife hid from him, but on Sunday he recovered possession of the poison. On the following morning, while all were at breakfast, Jones told them they were all poisoned, and, leaving the room, he seized a billhook and attacked a labourer who was working in the yard, injuring him seriously, so that he had to be removed in an unconscious condition to hospital. A large quantity of strychnine was found in the milk jug lying undissolved, this alkaloid, as is well known, requiring for its solution upwards of 7000 times its own weight. Some of the milk contained in the jug had been used, but could not have contained much of the poison, as the intensely bitter and persistent taste of strychnine apparently was not complained of. At all events, the mother and children, with their uncle, did not show symptoms of poisoning. Jones, on the arrival of the police to arrest him, opened a small box containing strychnine and swallowed its contents, and on his arrival at Rathdrum Barracks fell to the ground and died in great agony.

County Galway Infirmary.

The governors will, at the latter end of October, elect a surgeon to this institution. The salary has been fixed at 1*s.* a year, until such time as a presentment for the office is passed at an assize for the county of Galway. The appointment will virtually lie between Professor Kinkead and Professor Colahan.

Health of Dublin during August.

As compared with July there was a decided increase in the mortality caused by diarrhœa (and dysentery), and a decrease in the number of fatal cases of typhoid fever. Measles caused one death, but there was no fatal case of either typhus or scarlatina during August or the preceding month. The deaths from the seven principal zymotic diseases were 2·27 per 1000 in the Dublin Registration district.

Rabies.

The Boyle harriers, which, as announced in your last issue, were attacked a few days since by dumb rabies, have all been destroyed by order of the owner, Captain Hammond. When the disease first broke out those showing symptoms of madness were isolated from the others, but without advantage, and the entire pack had to be destroyed.

Kehoe, a labourer residing in Carlow, was last week bitten by a spaniel suffering from rabies, and has been sent as a patient to M. Pasteur for treatment.

Sept. 23rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Influenza in Paris.

ON the subject of influenza, which is again occupying the public mind, "L'Intermédiaire des Chercheurs et Curieux" has published, on "Les Epidémies et leurs Suites," a document extracted from a "Voyage à Paris en 1657–1658," under the title of "The Great Epidemics, from the 14th to the 17th Century." The authors of the "Voyage," two young Dutchmen, MM. Van Villiers, recorded from personal observation the existence of *la grippe* in Paris on March 7th, 1657. "A slight fever, caused by a 'cold,' which reigned in several cities, and principally in those where the apothecaries had consumed in fifteen days all the syrups, sugar candy, and tablettes of liquorice which they had prepared for the whole year. This malady is so general that it is called the disease *à la mode*, but it is so vehement that it has puzzled a great many persons. Nobody knows the cause of it, and the greater number attribute it to the malignity of the air. Physicians say that those who have had it once will be exempt from the plague with which we are threatened." Kieczkowski cites the case of a child seven years of age, affected in December with the benign form of influenza, and who since then cannot stand or walk upright, although the general health remains excellent. Professor Verneuil has presented to the Academy of Medicine a work on the subject from a surgical point of view. The disease is said to exercise a pernicious influence on wounds and surgical maladies. It gives rise to a tendency to the formation of pus in wounds, to pyogeny, not attended by shivering. The disease is often accompanied by conjunctivitis, otitis, parotiditis, pleurisy, pericarditis, purulent arthritis, furunculosis, abscesses, ovarian cysts, hydrarthrosis, cystitis, phlebitis, arteritis. It accelerates the development of tumours, retards the cicatrisation of wounds, and has an unfavourable influence on pregnancy and its sequelæ. Professor Potain, in one of his last clinical lectures, dwelt upon post-grippal asthenia. It is therefore certain that the malady produces, not only during its course, but afterwards, a remarkable state of physical, intellectual, and moral depression. The neurasthenia may be general, or localised to certain organs. The asthenia of influenza should be combated, not by arsenical and ferruginous preparations, which will act too slowly, as there is not, properly speaking, any anæmia, but by strychnine, caffeine, the phosphates, and the phosphate of zinc.

In a note published by Dr. Barthélemy in the *Archives Générales de Médecine* for this month, on the epidemic of *la grippe* of 1889-90, he says that eruptions are met with in the grave as well as in the slight cases and in all the clinical forms of the malady. The author had observed fourteen cases of cutaneous eruptions, and nineteen cases of purpural fever (*fièvre pourpre*), in which the skin presented itself uniformly red and tumefied, but without œdema. It is known that in dengue cutaneous eruptions are also frequent; they are observed once in ten cases. Hence the author cannot resist belief in the identity of influenza and of dengue, notwithstanding the recent protest against this view on the part of several physicians qualified to express an opinion.

Death of Dr. Ernest Hardy.

A report has been received of the death of Dr. Ernest Hardy, which took place at Finisterre, in the sixty-fourth year of his age. He was a distinguished biologist, chief of the clinical works at the Academy of Medicine, chief of the laboratory of the Hôtel Dieu, and member of the Council of Hygiene and of Salubrity of the Department of the Seine.

The Committee of Hygiene.

The last meeting of the Consultative Committee of Hygiene was taken up with the subject of cholera. Dr. H. Nonod, the Director of Public Hygiene, reported that the service organised for the examination or the disinfection of all persons and articles coming from Spain, either by land or sea, continues to work with great regularity. According to the report the epidemic has not crossed the frontier; there has not been in France a single case of Asiatic cholera. At the same meeting the Council was occupied with the epidemic of typhoid fever reported to be prevalent at Trouville and at Arles. A committee under the presidentship of Dr. Brouardel has been charged to study the epidemic in Normandy, and information has been solicited concerning that of Provence. Dr. Brouardel proposed to the meeting that the entire truth concerning the epidemic of cholera should be made known to the public.

Paris, Sept. 23rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The German Society for the Promotion of Public Health.

THE sixteenth meeting of this Society was opened by the usual speeches of welcome on the part of the authorities of the State and the city, and of scientific boards and institutions. A literary work entitled "The City of Brunswick from the Hygienic Point of view" had been prepared for the occasion by Professor Blasius, Railway Manager Clauss, and Herr J. Landaner, and was presented to the members. The first discourse was delivered by Professor Kerschensteiner of Munich, having for its subject "Hospitals for Small Towns and Rural Districts." He recommended the air-windows and air-doors of fine wire tissue described by Dr. Meneke of Wilster in a little treatise on this subject. The masonry should be isolated against the soil-damp, and the building should have verandahs at both ends. It should be heated by tile stoves, for water heating required skilled supervision which was not everywhere to be had. It ought also to possess a zinc bath for common use, a wooden one for medicated baths, and a movable bath. As a rule, every patient should first of all have a bath and be provided with clean clothes. The

best dehydration was by flush drains, but as this was seldom possible, there ought to be a well-arranged closet in the outer wall at the north side of the building. The walls of the house should be as porous as possible, and, therefore, neither oil painted nor papered. In the operation room they should be lined with tiles. The packing of the inserted ceilings should be of virgin material; at any rate, not of rumble. The floors of the entrance halls should be of the best terrazzo, and those of the rooms inlaid. A small store of medicines, the most necessary apparatus for examining patients, and a microscope, should be at the house physician's disposal; if his room is well arranged, a special operation room might be dispensed with. A special room for the temporary use of mental patients was highly desirable. Rooms for patients suffering from infectious diseases, the mortuary, the washing house, the drying loft, and a disinfection room, should be in a separate building. The disinfecting room need not be confined to the hospital, but should be used for the disinfection of clothes &c. from the neighbourhood, which would not only be a source of income, but would lead to the inhabitants of the district being gradually trained to greater care in the matter of disinfection. The mortuary should serve also as post-mortem room. If at all possible, there should be grounds for convalescents. As to expense, much of course would depend on the local conditions. If the site, as was often the case, was given gratis, one might estimate the price of such a simple hospital at about 1000 marks (i.e., shillings) per bed. In Bavaria the expense of maintenance was from 1·63 to 1·95 mark per patient daily. Skilled attendants were indispensable, and he recommended especially the sisters of the Red Cross. The employment of childless married couples had not proved recommendable. The main thing, of course, was the appointment of a good physician. This discourse gave rise to a lively discussion. Some speakers declared against the establishment of small hospitals, because they had no vitality, did not offer the physician adequate occasion for gaining experience, and therefore often failed to render the patients the service hoped for. Others, again, pointed to the necessity of having such institutions established everywhere, that all sick people should have them near at hand, especially in the case of accidents and of infectious diseases, the sufferers from which could then be rapidly isolated. Dr. Neuber of Kiel drew attention to the widespread reluctance of the people to send their sick to public hospitals. It was desirable that this feeling should be overcome by means of good and comfortable hospitals. In Kiel such an institution was projected, in which each patient might be treated by his own doctor. A Strasburger pointed out that the experiment made in Alsace with small hospitals had not proved very satisfactory. The sisters of mercy generally used the best rooms for themselves, and the largest of all was made the chapel, and the hospitals were constantly asking for funds, even those in which not more than three patients per annum were being treated. Similar complaints were made of the district about Münster, whereas the state of things in the neighbourhood of Minden was described as better. Dr. Rapmund of Minden thought twenty beds should be the minimum, if such an institution were to be capable of existence. Government Councillor Wolffhuegel of Göttingen maintained that the closets should be situated at the south side of the house, owing to the disinfecting and deodorising effect of the sun's rays. Dr. Petri of Berlin recommended Keidel's shell-stoves for the rooms and linoleum for the floors. Guenther of Dresden advised that the walls should be painted in oil for the sake of cleanliness. Surgeon-General Roth of Dresden pointed out that, with stringent antisepsis, the cubic contents of the rooms might be considerably diminished. Finally the assembly thanked Professor Kerschensteiner for his suggestive discourse, and expressed the hope that it might help considerably in convincing the competent official and other bodies of the urgent necessity of establishing hospitals in small towns. The committee was instructed to forward a copy of the lecture and a report of the discussion to the authorities.

The second topic discussed at the sitting on the 11th inst. was the Filtering Apparatus for the Water-supply of Cities, and the discussion turned mainly on the recent publication of Fraenkel and Piefke on the permeability of the usual sand filters to bacteria. One of these investigators, Professor Fraenkel of Königsberg, who is well known as the author of the best German book on bacteriology, introduced the subject. The gist of his remarks was as follows: The sand filter does not prevent the passage of bacteria till a film of mud consisting of algæ, bacteria, &c., has formed on the surface of the sand, which film, however, prevents the passage of the water. By rejecting the first water which passes through a quite new filter, by filtering as slowly as possible, and by most carefully avoiding any breach of the gradually forming film, one can reduce the number of the bacteria to about one-thousandth. If, in addition to these precautions, the water chosen be originally as germless as possible, all that science and engineering can yet do, is done. In the discussion which followed, it was objected that Fraenkel and Piefke (who is an engineer) had arranged their experimental filter in a wooden barrel, and that wood is a good medium for bacteria. Fraenkel answered that experiments had been made with similar results with a filter which was not of wood, and recommended underground water as the freest from bacteria, especially as a simple method of removing iron from it has recently been invented. This method was then described by Professor Fischer of Kiel. It consists in ventilating and then filtering the water. The water falls a height of two metres, in drops from a sieve-trough, into a collecting basin. The filter requires a layer of sand forty centimetres thick. The sand should consist of grains from two to three millimetres in diameter. The debate was unfortunately discontinued from want of time. The engineer, Herzberg of Berlin, had intended to speak of his extensive experience in raising underground water. He has found copious supplies of underground water even in districts where such were believed not to exist. He is of opinion that the method of merely boring which has been pursued hitherto is insufficient, and that shafts should be sunk. It is probable that the question of supplying cities with underground water will soon become a very important one. The secretary stated that the number of the members of the society had increased from 1242 to 1275.

The second sitting was held on the 12th inst. The first subject of discussion was the Suitability as Food of the Flesh of Cattle suffering from Infectious Diseases, which was introduced by Professor Bollinger of Munich. The gist of his communication was as follows: In order to effectively combat the dangers which threaten human health from the eating of the flesh of such animals, the following measures are advisable:—1. The introduction of compulsory official inspection of cattle, meat, and meat markets throughout Germany. 2. The success of inspection would be greatly promoted by the thorough and special instruction of veterinary surgeons, especially of those employed in slaughterhouses, in the hygiene and pathology of meat used as human food; and, with a view to this, it is desirable that, besides the practical courses of instruction in the slaughter-houses, candidates for licence to practise as veterinary surgeons should be examined in the subject of meat inspection. 3. The successful inspection of meat &c. in cities is possible only in public slaughterhouses, where all slaughtering should be done; and the establishment of such slaughterhouses by the State and by municipalities ought to be promoted by all possible means. 4. The efficiency of the inspection would be essentially furthered by the erection of free stalls for the sale of second-rate meat and of such flesh of diseased animals as is not unfit for human food; by making it compulsory to state that such meat is second-rate or taken from diseased animals; by preventing as far as possible the sale of cut-up meat; by complete destruction of meat unfit for human food by chemical or thermal means. 5. With regard to the edibility of the flesh of cattle suffering from infectious diseases, and of second-rate meat in general, legal regulations similar to those against trichinous flesh are necessary, according to which the sale of such meat as human food should be absolutely forbidden in certain cases, whereas in a second group of cases it should either be forbidden or conditionally allowed, according to the opinion of experts. 6. The eating of raw or half-raw meat is decidedly objectionable. 7. Considering the very serious consequences and the great frequency of cattle tuberculosis, it is urgently necessary that the State take energetic steps to combat that disease.

The next topic was the Disinfection of Dwellings, and was introduced by Professor Gaffky of Giessen, who was one of Robert Koch's companions and assistants on his famous journey to Egypt and India in quest of the cholera-bacillus, and who ranks as one of the best bacteriologists. He gave a brief account of the history of the disinfection of dwellings, described the discarded methods based on the use of gaseous disinfectants, and recommended the method now pursued in Berlin as the best. This method consists in rubbing down

the walls and furniture with bread, and washing the floors with carbolic acid. It entails a cost of 2*s.* or 2*s.* 6*d.* for a moderate-sized room. The bread must be neither fresh nor stale, and should be cut with a sharp knife into long and easily handled pieces. In the case of whitewashed walls the lime wash is renewed. Linen, clothes, and beds are disinfected with hot steam. Other objects are rubbed down with dry cloths or with cloths saturated with a disinfectant. The dry cloths and the bread remnants are burned. In the case of several infectious diseases—cholera, enteric fever, and dysentery, for instance—the rubbing of the walls may be dispensed with, and in general, the method should be modified according to the nature of the disease. The speaker warmly alluded to the great work of Director Merke of the Moabit Hospital in Berlin, under whose wise, energetic, and indefatigable superintendence the mechanism of disinfection in Berlin has attained extraordinary efficiency, and laid down the following propositions:—1. The disinfection of dwellings must not be left solely to the caprice of the heads of households, but ought in certain cases to be made obligatory in the interest of the public. 2. In all cases of disinfection of dwellings ordered by the authorities, it should be entrusted exclusively to reliable persons specially trained for the purpose, who have proved their qualification by passing a special examination. 3. The organisation of the disinfection of dwellings must be connected as far as practicable with the public establishments for disinfection. 4. The disinfection of dwellings may, as a rule, be restricted to the sick-room, its contents, and the articles used by the patient. 5. For the carrying out of compulsory disinfection of dwellings exact regulations should be issued, framed in accordance with the following considerations among others: (*a*) Different methods of disinfection should be prescribed for different infectious diseases, and no measures resorted to the practicability of which seems doubtful, or which can be replaced by simpler ones; (*b*) the regulations should also, if necessary, take rural conditions into account, and especially the possibility of a steam apparatus for disinfection not being available; (*c*) the application of chemical disinfectants should always go hand in hand with the most thorough cleansing. 7. The carrying out of compulsory disinfection of dwellings requires constant superintendence by experts. 8. The expenses of compulsory disinfection of dwellings ought to be borne by the public.

The next topic was Workmen's Dwellings. It was introduced by Fritz Kalle of Wiesbaden, the manufacturer and member of the Reichstag, but the exigencies of space and time forbid my reporting his remarks.

The last meeting of the Society took place on the 13th inst., was devoted to a discourse on the Planting of Trees and the Laying-out of Ornamental Grounds in Cities, and was delivered by the engineer, Andreas Meyer of Hamburg. He earnestly recommended the training of creepers on public and private buildings, the planting of every available bit of ground, no matter how small, the building of houses as far back as possible from the street, the uniting of the green spaces in front, as they do in America, permitting people to walk on grass, subject to the due reservations and precautions &c.

Berlin, Sept. 23rd.

A CAMEO FROM MOSCOW.

(FROM A CORRESPONDENT.)

IT may interest some of your readers as "*non omnes contigit adire Corinthum*" to have a short account of the Foundling Hospital at Moscow. The building stands on the north or left bank of the Moskwa, and resembles on its river aspect a huge white barrack. On the other side it is more cheerful in aspect, and the entrance to it is through an avenue of trees ending in a fairly well-kept garden. A few minutes after I had been admitted a comely and pleasant matron appeared, and to my request that I might be permitted to see the establishment said, "Oh, I see you are English. I speak only a little English, Italian, and German, but French and Russian, Finnish and Swedish well. Are you a doctor?" "Yes." "Where do you come from?" "London." "Are you attached to a hospital?" "Yes." "What hospital?" I told her. "Oh yes, I know it by name. I will show you over the hospital myself," and forthwith she ushered me into the receiving room. This was a large, well-lighted apartment. Three or four nurses were bustling about, and there were two or three women with infants in their arms. One had just walked up to the desk and presented her child. She was a fair-complexioned, light-haired, blue-eyed woman of some twenty years of age, with a bright open face, but sad now with tears running down her cheeks, as she stooped to give a last kiss to her baby—a fine, fat little fellow. A question or two were asked in Finnish or Russian, and the child was taken by a sister, who in less time than it takes to write it had measured its length and girth, learned its age, stripped it of its clothes, and popped it into a pair of scales as a loin of lamb might be weighed, except for the little fragment of flannel that protected it from the metal or porcelain pan. The little thing was handed over to a nurse, who promptly placed it under a tap of warm water, washed it clean, puffed it under the arms and between the thighs, and tied a little leaden tablet stamped with its number round its throat; some garments were put round it, and it was carried off. "When does the mother see it again?" I innocently asked. "She never sees it again," was the reply. It was not easy to forget the expression on the girl's face as she strained her eyes to catch the last glimpse of the child. I was then shown the dining rooms and sleeping apartments, which were clean and apparently wholesome. The day was sunny and warm, and I followed my guide into the garden, and on the way asked her whether the two or three infants I had seen admitted were the only ones taken in on that day. "Those two?" she said in surprise; "oh dear no! We have had more than twenty to-day." Twenty foundlings at 2 P.M. on one Sunday; only think of it! "And what is your mortality here?" I inquired. "About 15 per cent." "How long do they remain here?" "About a month." "Then what do you do with them?" "Send them into the country." "Is the mortality great there?" "Yes, it is rather large." In the garden under the trees were long rows of nurses, each with her cradle; all clean, neatly dressed, and apparently assiduous in their attention to their charges. "How many children are looked after by each woman?" "Each woman has charge of three, and acts as wet nurse to them." "How long do you consider them fit to discharge this treble duty?" "For a year." Looking at them collectively, both wet nurses and infants seemed to be healthy, though to nurse three children for that space of time must tax the powers of even a strong woman; and the mortality may possibly be ascribed in part to insufficient nourishment. In some instances a delicate, wizened little pair were sleeping cosily on a mattress, in a cradle made of copper with double walls, which contained hot water, between them—a plan I had not elsewhere seen practised. The number of women capable of nursing was so considerable that the suspicion just crossed my mind that possibly the mothers of the infants just admitted might, a day or so after parting with their offspring, present themselves in full milking order, and so get the opportunity of, for a time at least, repossessing themselves of them. The matron seemed to be uncommonly keen in recognising infractions of the rules of the establishment. On one occasion she suddenly thrust her hand into the pocket of one of the nurses and drew therefrom a bottle of something that looked suspiciously like *vodka*; on another she ferreted out from the head of a cot a bottle containing a brownish liquid that looked like Mrs. Winslow's soothing syrup, much to the astonishment of the woman in charge; and it appeared, though no word was intelligible to me, that the Russian language is not deficient in expletives. On leaving I ventured to say to my ladylike and intelligent guide, "Do you think all this is conducive to the morality of the people?" But whether her temper had been a little ruffled with the episode of the bottles, or whether the same question had been put by others, it is certain she turned round rather snappishly with, "What about your infanticides and baby-farming in England?" which inquiry furnished food for reflection on my way to my hotel.

THE SERVICES.

INDIAN MEDICAL SERVICE.

THE Government of India have sanctioned a reallotment of the existing staff of Medical Staff officers in the three Presidencies. The authorised establishment of 322 Medical Staff officers will, during the ensuing relief season, be carried out strictly in proportion to the number of British troops in each Presidency, as follows:—Bengal, 44,498 troops, 198

medical officers; Madras, 14,825 troops, 66 medical officers; Bombay, 12,897 troops, 58 medical officers.

ARMY MEDICAL STAFF.—Deputy Surgeon-General Samuel Black Roe, M.B., C.B., has been placed upon retired pay (dated Sept. 11th, 1890).

ADMIRALTY.—Staff Surgeon Alexander Blood Trousdell, M.D., has been promoted to the rank of Fleet Surgeon in Her Majesty's Fleet (dated Sept. 13th, 1890), and William Hackett, M.D., has been appointed to the *Goldfinch* (dated Sept. 24th, 1890).

VOLUNTEER CORPS.—*Rifle:* 3rd Volunteer Battalion, the Essex Regiment: Surgeon and Surgeon-Major (ranking as Major) J. W. Danaher resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the Battalion on his retirement (dated Sept. 20th, 1890).—1st (Inverness-shire Highland) Volunteer Battalion, the Queen's Own Cameron Highlanders: Surgeon and Surgeon-Major (ranking as Lieutenant-Colonel) K. Corbett resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the Battalion on his retirement (dated Sept. 20th, 1890).—16th Middlesex (London Irish): John Hubert Griffin, Gent., to be Acting Surgeon (dated Sept. 20th, 1890).

Obituary.

PETER HOOD, M.D.

BY the death, in his eighty-second year, of Dr. Hood, of Seymour-street and Watford, the profession has lost a typical representative of the best class of medical practitioner, such as he was rendered by the training of the first third of the present century. Dr. Hood was born at Gateshead, and came to London at the age of eighteen, to attend lectures, and to "walk," as it was called, St. George's Hospital. He obtained the Licence of the Society of Apothecaries in 1831, and established himself in general practice with what soon became marked and exceptional success. It is curiously characteristic of a bygone time that his first book, "The Diseases most Fatal to Children," was dedicated to Mr. Pennington, then the leading general practitioner in London, and that the author is described on the title-page as "general practitioner in medicine and surgery." The motive of this book was to indicate the dangers of depletion in children's diseases, and it was certainly one of the agencies by which the practice of bleeding and leeching was brought into general disrepute. In 1863 Mr. Hood took the degree of M.D. at St. Andrews, in order to devote himself to consulting practice, and soon afterwards he published his treatise on Gout and Rheumatism, which, while it showed that the author had not allowed his thoughts to be diverted from familiar lines by the ever-growing and ever-changing physiology of the day, at the same time thoroughly established his reputation as a shrewd observer and a sound clinical physician. He wrote also on the treatment of Scarlet Fever, on Laryngismus Stridulus, and other subjects, and contributed to the columns of THE LANCET, in 1867, a paper on the treatment of Cancer by Lime, which, in view of the present renewed interest in the subject, might perhaps be studied with advantage. Nor was his activity confined to human diseases, for he was an active contributor to the literature of cattle plague at the time of its great prevalence in this country. In addition to his professional vocations, Dr. Hood was a keen sportsman, an exceedingly skilful fly-fisher, and a fine whist player; and, both in London and at his country house at Watford, he delighted in the exercise of a genial and kindly hospitality which none of those who were privileged to share it will ever forget. Of very fine and handsome person and winning manners, he was much beloved both by his numerous friends and by a large circle of patients among the upper classes of society, and it is said to have been a tradition among the latter that he was possessed in an eminent degree of the secret of keeping old people not only alive, but in health and vigour. "Dr. Hood's patients," they used to say, "do not die." His own powers of life began to fail perceptibly about a year ago; and, without manifest disease, and retaining his faculties to the last, he passed peacefully away on the 18th instant at his house at Watford. He had been treasurer of the Fisheries Preservation Association from its commencement, and for many years President of the West Herts Medical Association. Dr. Hood had been for some years a widower, and three of his children, Dr. Wharton Hood, Miss Hood, and Lady Palmer, survive him.

Medical News.

THE MIDDLESEX HOSPITAL has received a donation of £1000 from Mr. W. H. Johnson of Bermondsey.

SOCIETY FOR THE STUDY OF INEBRIETY.—At the next meeting of the Society on Oct. 7th next a microscopical demonstration of the alcoholic degeneration of the nerve apparatus of rabbits will be given by Dr. J. F. Spaink, Baarn, Holland.

KING'S COLLEGE HOSPITAL.—The committee of the hospital, at its weekly meeting on the 24th inst., unanimously resolved to open the Cheere Ward for the admission of patients at the commencement of the winter session. This decision adds fifteen beds to this medical ward of King's College Hospital, and makes the hospital service complete with 218 beds, which is a larger number than has ever been in use since the foundation of the hospital.

INDIAN MILITARY HOSPITALS AND LADY NURSES.—It is stated that the Quetta Home, the largest undertaking of Lady Roberts' scheme for providing lady nurses for the Military Hospitals in India, is ready for occupation. As no house accommodation was procurable at Quetta, her ladyship decided to erect a building of her own. Plans were prepared, and the home has been privately built from the fund subscribed, and without Government aid. Suitable accommodation is provided for three lady nurses.

FOOTBALL CASUALTIES.—During a football match on Saturday at Clitheroe, between Clitheroe and Brierfield, in the first round of the Lancashire Junior Cup competition, William Blackhurst (the captain of the Clitheroe team) had his left leg badly fractured. Later in the progress of the game a man named Crawshaw was disabled.—On Monday, Joseph Walker Smith of Huddersfield died from the effects of an injury received on Saturday in a football match with the Lockwood Club against Primrose-hill for the Holliday Charities Cup. He collided with an opponent, sustaining a blow in the groin. Medical advice was obtained, and an unsuccessful operation was performed on Sunday.

WEST SUFFOLK GENERAL HOSPITAL.—At a meeting held on the 16th inst. a resolution was submitted to the governors, to the effect that "in the very probable event of the house-surgeon desiring to resign office, he should be granted a pension of gratuity commensurate with his valuable services extending over thirty years." The chair was occupied by the Duke of Grafton. The secretary read the proposition of the committee, moved by the chairman and seconded by the Rev. T. Abraham, "That in consideration of the long services of Mr. Fuller, the house surgeon to the hospital, a pension of 50 guineas for life be granted to him." This was formally put to the meeting and carried.

THE REMOVAL OF INVALIDS.—The delegates of the Hospital Saturday Fund, having instituted an invalid transport corps, call the attention of the collectors of the fund to the fact that, wherever a serious case of illness requires removal to any one of the London hospitals, arrangement for the reception of the patient having previously been made, collectors of the fund may, upon application to the offices of the Hospital Saturday Fund, obtain an order which will entitle the patient to immediate removal, within the four-mile radius, by the Invalid Transport Corps, in a horse ambulance carriage with attendant. A minimum payment of 3s. must be made with the application. Outside the four-mile radius removals are subject to special arrangement.

TRIPLETS ATTAIN THEIR MAJORITY.—At Egton, a moorside village not far from Whitby, three triplets—two boys and a girl—have attained their majority. The interesting event has been the occasion of popular rejoicing in the village. It is worthy of remark that the triplets are unusually strong and robust.

VACCINATION PROSECUTIONS.—The Board of Guardians of West Bromwich have been considering the question of second prosecutions against persons who have not carried out the magistrates' order in vaccination cases. They resolved to institute further proceedings, the chairman remarking that if necessary 300 summonses would be issued.

BARMING ASYLUM.—A meeting of the committee of this Asylum met on Saturday last to consider some of the alleged grievances as set forth in a memorial of the attendants. Some attempt has been made to improve the condition of the attendants, who hitherto were entirely in the hands of the superintendent. He could suspend them without any chance of their case being brought before the committee. In future the superintendent will have to communicate the fact of a suspension to the chairman of the committee and the visitors for the month, who will meet and hear the case. The attendant has then the right of appeal to the general committee. The question of food and night duty was also considered, and there is every prospect of a satisfactory settlement being arrived at.

THE PUBLIC HEALTH ACT IN OPERATION.—At Leeds on the 16th inst. a case under this Act came under the notice of the magistrate. A pig belonging to Robert Calvert, of the Leeds Arms, Tadcaster, was exposed in an emaciated condition in the market, and the medical officer considered it to be unfit for food. The magistrate, having looked at the animal, made an order to have it destroyed. As a sequel to the above the defendant was brought before another court and charged with having exposed a diseased pig for sale. Dr. Cameron deposed that he had made an examination of the lungs of the animal and found them seriously affected with tubercle. The animal was in the last stage of consumption and totally unfit for food. A fine of £5, including costs, was imposed. The town clerk (Sir George Morrison) prosecuted.

THE STROUD WATER-SUPPLY.—The deficient and unsatisfactory service of water in this town led recently to a petition being presented to the Board of Health (which was signed by all the medical practitioners and many influential residents) calling on the Board to take steps for an immediate supply to the town, with the intimation that should it become necessary an appeal would be made to the Local Government Board. The Stroud Water Company have an ample supply laid through the town, but no power to utilise it within the Board's area. Moreover, hitherto there has existed an aversion to avail themselves of a supply from the company. A crisis has, however, come which peremptorily demanded the attention of the Board, and a special meeting was held on the 18th inst. on the question. After considerable discussion, it was unanimously resolved that the Board should obtain an immediate supply from the Water Company.

MEDICAL DEFENCE UNION: METROPOLITAN DIVISION (EXECUTIVE COMMITTEE).—A meeting was held at the offices of the British Medical Association, 429, Strand, on Thursday, Sept. 18th, Dr. Granville Bantock in the chair. Dr. Campbell Pope, hon. sec., produced a map of the Metropolitan Division, showing that the distribution of the members of the Executive Committee might with great advantage be made more representative of the different districts, many large areas being entirely unrepresented. Dr. Mead suggested some names of gentlemen willing to serve. On the proposition of the chairman, Dr. Pope was requested to prepare a geographical index of the members of the Division with a view to selecting representatives of the various districts of the Division now unrepresented to fill up vacancies from retirement and other causes. The report of the subcommittee appointed to examine Surgeon-Major Evatt's proposals for remodelling the Medical Register was received and discussed. It was resolved that "certain of these proposals being deemed useful, the matter should be referred to the Council of the Union with a view to its being brought before the General Medical Council." It was proposed that the annual meeting should be held on Nov. 13th, of which due notice should be given to members.

GRESHAM LECTURES ON PHYSIC.—Dr. E. Symes Thompson will deliver the above course of lectures on Oct. 7th, 8th, 9th, and 10th, at Gresham College, Basinghall-street, City.

VISIT TO CANVEY ISLAND.—The chairman and members of the Port of London Sanitary Committee and Dr. Collingridge, medical officer of the Port of London, paid a visit of inspection to Canvey Island on Thursday, the 18th inst. The island has been under the jurisdiction and control of the Port Sanitary Committee of the Corporation for five years, the inhabitants having petitioned that body to superintend their water-supply and conduct their drainage. After the visit the company dined at the Old Falcon Hotel, Gravesend, when the usual toasting took place. In reply to the toast of "The Officers of the Corporation," Dr. Collingridge remarked that the inhabitants of the island greatly appreciated the work of the Corporation, and felt that a visit of that body was a matter of great moment to them, and they had to thank the Court for much better water and good sanitary arrangements. The party returned to London in a saloon carriage from Gravesend.

THE SANITARY INSTITUTE.—A list of lectures for sanitary officers has been arranged by the Sanitary Institute for the special instruction of those desirous of obtaining knowledge of the duties of sanitary officers. The various subjects will be dealt with in a course of sixteen lectures, given by well-known authorities, and will be illustrated with diagrams, drawings, and models. These lectures are a continuation of the courses previously held at the Parkes Museum, and it is proposed to repeat the course twice each year, to suit the requirements of persons preparing for examinations of the Institute. The lectures will comprise the subjects scheduled for these examinations, and will be given on Tuesdays and Fridays, at 8 P.M., in the Parkes Museum, Margaret-street. Students attending the course will be granted free admission to the museum and library during October and November. A fee of £1 1s. will be charged for the course to cover the necessary expenses, but inspectors or surveyors holding office and candidates for the examinations of the Institute will be admitted at half fees.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at midnight on September 23rd, 1890.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	281	55	..	67	11	414	442
North-Western Hospital	344	36	..	21	2	403	415
Western ,,	134	9	..	11	..	154	262
South-Western ,,	102*	..	..	..	.	102	340
South-Eastern ,,	257	22	1	39	3	322	462
Northern ,,	417	18	..	..	..	435	480
Totals	1595	140	1	138	16	1890	2401

SMALL-POX.—*Atlas* hospital ship, 1.
* 1 infant with mother.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ANGOVE, WM. T., M.R.C.S., has been appointed a Surgeon to the South Australian Military Forces.

BISHOP, REGINALD W. SNOWDEN, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Bradford Children's Hospital.

BROCKLESBY, RICHD., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Second District of the Grimsby Union.

COLLUM, ARCHIE TILLYER, M.R.C.S., L.R.C.P., has been appointed House Surgeon to Charing-cross Hospital.

CREASY, J. G., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Fourth District of the Bromley Union, Kent.

EWART, JOHN, M.D., M.B. Edin., has been appointed Public Vaccinator for the District of Wellington, New Zealand.

FREER, J. H., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer and Public Vaccinator for the Rugeley District of the Lichfield Union.

GIBBS, CHARLES, M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to Charing-cross Hospital.

GOURLEY, SAMUEL, M.D. Glasg., F.R.C.S. Edin., has been reappointed Medical Officer for the Hartlepool Rural and West Hartlepool Union Districts.

GRINDROD, JOHN A., M.R.C.S., has been reappointed Medical Officer of Health for Norden.

HEARNDEN, W. C., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Leatherhead and Fetcham District of the Epsom Union.

HENSLEY, PHILIP H., M.R.C.S., has been appointed House Surgeon to the District General Infirmary, Dewsbury, vice Milne, resigned.

HILL, THOS., L.R.C.S., L.M. Edin., has been appointed Medical Officer for the Leadington and Preston District of the Newent Union.

HOUSMAN, BASIL W., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Taunton and Somerset Hospital.

KING, CHARLES G., M.B. Glasg., L.R.C.S. Edin., has been appointed Medical Officer for the Burgh of Pollokshaws.

LAKE, W. WELLINGTON, M.R.C.S., L.S.A., has been appointed Public Vaccinator to the Seventh Depwade District and the Fourth Henstead District, Norfolk; also Medical Officer to the Fourth District of the Henstead Union, vice G. B. Masson, resigned.

LUNAN, ROBT., L.R.C.S. Edin., has been reappointed Parochial Medical Officer of Blairgowrie, Rattray, and Kinloch.

MANNERS, WM. F., M.R.C.S., has been appointed Medical Officer for the Claygate District of the Kingston Union.

MANTLE, ALFRED, M.D., M.R.C.S., has been appointed Surgeon to the Halifax Infirmary, vice G. D. Crowther, resigned.

MAPLES, REGINALD, L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of Health for the Kingsclere Rural District, vice Thomson.

MARTIN, ROBT., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Public Vaccinator for the District of Dunedin, New Zealand.

MITCHELL, C. J. C., M.D. Brussels, M.R.C.S., has been appointed a District Medical Officer for Birmingham.

MITCHELL, ROBERT, M.A., M.B., C.M. Edin., has been appointed Medical Officer of Health for the Hebburn Rural Sanitary District of the South Shields Union, vice Sweet, deceased.

MORRIS, CHARLES E., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Rural and Union Districts, Stratford-on-Avon, Evesham, and Alcester, vice Fosbroke.

MOXON, WILLIAM, L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer and Public Vaccinator for the Matlock District of the Bakewell Union.

PARK, DAVID S., L.R.C.P., F.R.C.S. Edin., has been reappointed Medical Officer for the Northern Division of the Rural District of the Houghton-le-Spring Union.

PARKINSON, CHAS. J., M.B. Lond., M.R.C.S., has been appointed Public Vaccinator, Malvern, Victoria.

PARSONS, FRANCIS J. C., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Bridgwater Union and Rural Districts.

PENNY, J., M.R.C.S., L.R.C.P. Lond., late House Surgeon to King's College Hospital, has been appointed House Surgeon to St. Peter's Hospital, Henrietta-street, Covent-garden.

RIDDELL, ANDREW W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the St. Mary-Bourne District of the Whitchurch Union.

ROBERTSON, D. W., L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer and Public Vaccinator for the Pickering District of the Pickering Union.

RODEN, PERCY A., M.B., C.M. Aberd., has been appointed Medical Officer for the Hanbury District of the Droitwich Union.

SAUNDERS, FRED. H., M.B., C.M. Aberd., has been appointed Medical Officer and Public Vaccinator for the Ripley District of the Knaresborough Union.

STEWART, JAS. A., M.B., C.M. Glasg., has been appointed a Public Vaccinator in South Australia.

STOCK, WM. H., L.K.Q.C.P. Irel., L.F.P.S. Glasg., has been appointed Public Vaccinator for the District of Yea, Victoria, vice Lock, resigned.

SUTHERLAND, JOHN R., L.R.C.S. Edin., has been appointed Medical Officer and Public Vaccinator for the Rainton District of the Houghton-le-Spring Union.

THOMSON, DOUGLAS L., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer and Public Vaccinator for the Highclere District of the Kingsclere Union.

VIANT, HENRY, L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Workhouse of the New Forest Union, vice Nunn, resigned.

WELLS, A. E., M.D. Lond., L.R.C.P., has been appointed Medical Officer for the Workhouse of the Cuckfield Union.

WESTLAKE, ALGERNON, M.B., C.M. Edin., has been appointed Medical Officer for the First District of the Grimsby Union.

WHITE, BARRINGTON S., M.D. Durh., M.R.C.S., has been appointed Medical Officer for the Second District of the New Forest Union.

WILEY, A. O., L.R.C.P. Edin., L.R.C.S. Irel., has been appointed Medical Officer of Health for the Knaresborough Rural District.

WILLETT, GEO. G. D., M.R.C.S., has been reappointed Medical Officer for the Bitton and Marksbury Districts of the Keynsham Union.

WILLIS, WM. R., M.B., C.M. Glasg., has been appointed Medical Officer for the Western District of the Old Monksland Parochial Board, Coatbridge.

WOLVERSON, THOS., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the No. 1 District of the Wolverhampton Union.

WRIGHT, WM. H., L.K.Q.C.P. Irel., M.R.C.S., has been reappointed Medical Officer for the Alvaston and Boulton Union District.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BELGRAVE HOSPITAL FOR CHILDREN, 79, Gloucester-street, S.W.—House Surgeon. Board, lodging, and washing.

BOLTON INFIRMARY.—Junior House Surgeon. Salary £100 per annum.

CARDIFF UNION.—Resident Assistant Medical Officer for the Workhouse. Salary £100 per annum, with rations, apartments, attendance, and washing. (Apply to Mr. A. J. Harris, Clerk, Queen's Chambers, Cardiff.)

CLINICAL HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham, Manchester.—Honorary Assistant Surgeon. (Apply to Mr. Teague, Secretary, 38, Barton-arcade, Manchester.)

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—Resident Medical Officer. Salary £50 a year, with board and rooms.

HOSPITAL FOR WOMEN (LONDON SCHOOL OF GYNÆCOLOGY), Soho-square, London.—Clinical Assistants in both Out- and In-patient Departments. (Apply to the Dean at the Hospital.)

LEEDS PUBLIC DISPENSARY.—Honorary Ophthalmic Surgeon.

LINCOLN COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

ROYAL SOUTH LONDON DISPENSARY, St. George's-road, Lambeth, S.E.—Surgeon to the Waterloo District. Honorarium £20 per annum.

ST. SAVIOUR'S UNION, Surrey.—Medical Officer for the Fifth District. Salary at the rate of £130 per annum, inclusive of all extra fees, with the exception of those payable in respect of the Quarterly Returns of Lunatics. Drugs are found and dispensed by the guardians. (Apply to Mr. H. C. Jones, Clerk, John-street West, Blackfriars-road, S.E.)

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, Newcastle-on-Tyne.—Demonstrator of Anatomy. Salary £100 per annum.

Births, Marriages, and Deaths.

BIRTHS.

BALLACHEY.—On Sept. 9th, the wife of Henry H. Ballachey, M.R.C.S., Chelford, Cheshire, of a son, stillborn.

BOND.—On Sept. 18th, at Leyton, Essex, the wife of Mayston Bond, M.R.C.S., L.R.C.P., of a daughter.

EVANS.—On Sept. 17th, at Castle Hill House, Shaftesbury, the wife of C. S. Evans, M.B., of a son.

HEWAN.—On Aug. 20th, at Joyhing, North Lakhimpur, Upper Assam, India, the wife of Dr. John Hewan, of a daughter.

LEE.—On Sept. 16th, at Gunterstone-road, West Kensington, the wife of Dr. R. J. Lee, of a daughter.

MURRAY.—On July 21st, at Johannesburg, Transvaal, the wife of G. E. Murray, M.B., F.R.C.S., of a son.

STABLES.—On Sept. 20th, at Ivanhoe-terrace, Ashby-de-la-Zouch, the wife of W. W. Godfrey Stables, M.R.C.S., of a son.

TAYLOR.—On Sept. 16th, at 59, Bath-street, Snow-hill, Birmingham, the wife of John W. Taylor, F.R.C.S., of a daughter.

WILLIAMS.—On Sept. 18th, at Westbourne-place, Clifton, the wife of P. Watson Williams, M.B., of a son.

MARRIAGES.

BRADLEY—MACKLIN.—On Sept. 17th, at St. John's, Ladbroke-grove, W., James Edmund Campbell Bradley, M.B. Camb., of St. Albans, to Mary Louise, elder daughter of Albert Macklin, of Ladbroke-road, W.

HEATHERLEY—SACKETT.—On Sept. 18th, at St. Nicholas, Worcester, by the Rev. A. Gordon Greenhalgh, Francis Heatherley, M.B., B.S. Lond., F.R.C.S. Eng., of New Ferry, Cheshire, only son of Thomas Heatherley, of the School of Art, London, to Grace Edith, youngest daughter of the late Henry Sackett, of Orsett, Essex, and recently Matron of the Hospital, Stratford-on-Avon. No cards.

POULAIN—HARPER.—On Aug. 23rd last, at St. Mary Abbott's, Kensington, Victor Peter Anthony Poulain, M.D., M.R.C.S.E., of South Kensington, to Cecilia Fanny Harper, eldest daughter of T. S. Harper, of Chelsea.

WALKER—BROWN.—On Sept. 17th, at Glentworth, Lincolnshire, Francis John Walker, M.D., second son of J. West Walker, M.B., of Spilsby, to Maria Edith, eldest daughter of Pereira Brown, of Glentworth Hall.

DEATHS.

BELCHER.—On Sept. 17th, at Branstone-road, Burton-on-Trent, Paul Belcher, M.R.C.S., L.S.A., L.R.C.P., aged 55. No cards.

HOOD.—On Sept. 18th, at his residence, Upton House, Watford, Herts, Peter Hood, M.D., late of Seymour-street, Portman-square, London, in his 82nd year.

JACK.—On Sept. 13th, at Sitapur, Oudh, India, of cholera, David Morton Jack, M.D., Surgeon-Major, Indian Medical Service, son of the late Rev. Hugh Morton Jack, of Gatehouse, Kirkcudbrightshire, aged 36.

MARSH.—On Sept. 18th, at his residence, Duke-street, St. Helens, Sylvester Marsh, L.R.C.P. Edin., L.F.P.S. Glasg., aged 45.

MILLAR.—On Sept. 19th, at Clapton-square, Clapton, George Cochrane Millar, M.D., in his 62nd year.

O'CONNOR.—On Sept. 14th, at High-street, Killarney, the residence of his nephew, T. T. O'Connor, Daniel O'Connor, M.D., Deputy Inspector-General R.N., after a very brief illness.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 25th, 1890.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Sept. 19	29·93	S.	61	58	114	69	56	·14	Cloudy
,, 20	29·64	S.	62	58	115	69	58	·05	Cloudy
,, 21	29·77	S.W.	63	58	109	69	55	..	Cloudy
,, 22	29·73	W.	61	56	109	69	55	·04	Bright
,, 23	29·92	S.W.	58	56	109	68	55	..	Cloudy
,, 24	30·20	W.	57	53	111	69	52	·22	Bright
,, 25	30·39	W.	61	58	100	69	56	..	Overcast

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET to be addressed "To the Publisher."

We cannot undertake to return MSS. not used.

DR. KIDD'S HOMŒOPATHY.

A RESPECTED correspondent, in writing on the ethics of meeting homœopaths, makes a point of Dr. Kidd's being a homœopath. This is not so easy a question. Dr. Kidd has written a book to show that the principle to be followed is sometimes homœopathy and sometimes the opposite dictum, *Contraria contrariis curantur*. There is a delightful confusion, or rather contradiction, in such opposite "principles."

Dr. H. E. Sargent.—Although not quite prepared to go the whole length of our correspondent's views, we are certainly of opinion that the finding of the jury rested on very insufficient reasons. The death was probably due to natural causes, but not positively. Of course, the coroner must take the responsibility of his advice to the jury. It is better to err on the right side, and we regret that a post-mortem examination was not made in the case referred to by our correspondent.

Doubtful.—The qualification is one in surgery as well as in medicine, and we do not see that the holder can be wrong in describing himself as a surgeon.

Ajax.—The qualification in question does not justify the title mentioned.

INFLUENZA AND FECUNDITY.

To the Editors of THE LANCET.

SIRS,—In the numerous papers and annotations on influenza I have not noticed any reference to the connexion between the disease and the reproductive function; but in my own practice I have noticed (1) a much smaller number of births at term and (2) a much larger number of abortions during the present year. Instead of thirty-six births and four abortions—my average for the previous ten years,—I have had eighteen births and ten abortions. I am naturally anxious to know whether this is an isolated experience, or whether it is more widely spread and may be predicated as a sequel of influenza.

I am, Sirs, yours faithfully,

September, 1890. M.B.

Fairplay.—We think our correspondent would be justified in refusing to meet one who holds such opinions and propagates them in the way described.

General Practitioner.—1. Yes.—2. This question is too vague to admit of a satisfactory reply.

RELATIVE ADVANTAGES OF GLUTEN BREAD AND POTATOES IN THE TREATMENT OF DIABETES.

An Inquirer.—The statement is that of Prof. Dujardin-Beaumetz; but perhaps it was too baldly put in the article referred to. The full text of the paper was not then available; but since then it has appeared in the *Wiener Medicinische Wochenschrift* (Nos. 37 and 38). The passages dealing with this point are as follow:—"On the basis of analyses made by Boussingault and Mayet I was one of the first to suggest that potatoes might be substituted for gluten bread. According to these analyses, the best gluten bread yields from twenty to thirty grammes, or even more, sugar per 100 grammes, whilst potatoes contain only 8·3 grammes per 100 grammes. It would be going decidedly too far, and committing a great error, to introduce potatoes into the anti-diabetic diet. [*Man ging entschieden zu weit und beging sogar einen grossen Fehler, indem man die Kartoffeln in die antidiabetische Diät einbezog.*] For it must not be forgotten that we can only compare equal weights of gluten bread and potato. A boiled potato of a certain size weighs 100 grammes. If the patient consumed several such potatoes he would be at a decided disadvantage, since 100 grammes of gluten bread fully suffice for two meals. If the potato is to be taken by the diabetic as a substitute for gluten bread, he ought not to eat more than one boiled potato, and this should be taken with butter." Thus, then, although small quantities of potatoes may be eaten with as much impunity as gluten bread, they cannot be taken in sufficient amount to form an integral part of an anti-diabetic diet. And large as is the proportion of carbohydrate in gluten bread, its more concentrated form gives it the advantage. Prof. Dujardin-Beaumetz, indeed, speaks elsewhere of the inestimable service rendered by Bouchardat in the introduction of gluten bread, but deplores the existence of so many different qualities of this preparation.

A. E. K. should decline all responsibility for the *treatment* of the case. The question of satisfying the club is a different one. We do not see that he can diagnose a fracture without examining the leg. He should make a statement of the facts to the lodge. We must apologise for delay in this reply to a most important question.

Mr. Arthur Webster.—For payment of notification fees application should be made, either quarterly or half-yearly, to the *sanitary authority* of the district in which the case occurs. Charge should be made for every case.

M.B.—At least three months. Care should also be taken to protect as far as possible the other patella.

Dr. Shephard T. Taylor.—The reports have been received.

PARCHMENT PAPER AS A "PROTECTIVE."

To the Editors of THE LANCET.

SIRS,—I should like to call attention to the existence of a cheap and efficient substitute for oiled silk, gutta-percha tissue, and all other forms of "protective." I refer to the so-called "parchment paper," prepared by the immersion of paper at a certain stage of manufacture in sulphuric acid. It is largely used commercially on account of its grease-proof properties. I was first led to use it owing to a temporary failure in the supply of gutta-percha tissue in the treatment of an extensive burn of the thorax, in which numerous skin-grafts and a considerable extent of growing edges required "protective." I was gratified on finding that it answered the purpose admirably, possessing the further advantage, on the dressing being changed, of remaining free from the discolouration which always results from chemical decomposition when gutta-percha tissue is used. Being unaffected by heat or moisture, it is available for every occasion on which we wish to retain these properties—e.g., as a backing to hot fomentations, stupes, poultices, compresses, &c. It is unaffected by alcohol, ether, turpentine, oils, &c., and is the most suitable covering for a piece of lint soaked with any liniment when used as a local application for neuralgia, sciatica, &c. It remains unaltered by temperature and time, and consequently never becomes sticky like oiled silk, nor does it crumble to pieces after being laid aside for any length of time, like gutta-percha tissue. Its cheapness and indestructibility, with all these advantages, ought to bring it into universal use.

I am, Sirs, yours faithfully,

Hertford, Sept. 15th, 1890. ARTHUR H. BOUCHER, M.D.

Mr. Evan Jones.—Whenever there is the least doubt as to the cause of death we always insist upon the propriety of making a post-mortem examination; but in the case referred to by our correspondent the injury he describes was so obvious that we do no think the coroner was too assertive of his prerogative in not calling medical witnesses. The course taken was certainly legal.

Public Vaccinator.—We would recommend our correspondent to consult the excellent work written by Dr. J. C. M'Vail, entitled "Vaccination Vindicated," in which an answer is given to the objections put forth by leading anti-vaccinators. The book is published by Cassell and Co.

BLACK VOMIT FEVER.

THE Havanah Society of Clinical Studies is endeavouring to collect as much information as possible on the subject of the so-called *Fiebre de Borras*—i.e., a fever characterised by the vomiting of matter like coffee grounds, and with this object in view, has issued a set of questions, answers to which should be sent to the secretary by Sept. 30th, 1891. Without giving the questions *in extenso*, it may be useful to indicate a few of the more important heads:—Symptoms; different forms; temperature tracing; albuminuria or hæmoglobinuria; existence of jaundice and date of its appearance; day of appearance of black vomit, its physical, chemical, and spectroscopic character; experiments by inoculation of animals with it; simultaneous occurrence of cases with albuminuria or jaundice, but without black vomit; mode of propagation; relative frequency as to age, sex, and race; epidemics associated with other epidemic diseases, especially yellow fever; pathological anatomy and bacteriology; nature—typhous, malarial, or a modification of yellow fever in creoles; weather and soil; prognosis, hæmorrhage a frequent termination; treatment; duration; mortality.

R. H. K.—As standard general works we may name Wilson's Handbook of Hygiene (Churchill), or the last edition of Parkes on Hygiene and Public Health (Lewis's Series), and Vital Statistics by Newsholme (Sonnenschein). The annual reports of the Medical Officer of the Local Government Board for the last ten years should also be procured; they are very important as containing information on public health questions up to current date, and should include certain supplements, such as Dr. Ballard's Report on Epidemic Diarrhœa. Amongst the statutes &c. the following should be studied:—The Public Health Act, 1875; the Public Health (Water) Act, 1878; the Infectious Diseases (Notification) Act, 1889; Shaw's Manual of the Vaccination Law, 5th edition; Knight's Annotated Model By-laws; Knight's Manual as to Dairies, Cowsheds, &c.; Knight's Sanitary Regulations as to Bakehouses; the Orders of the Local Government Board as the Duties (*a*) of Medical Officers of Health and (*b*) of Inspectors of Nuisances. For the first part of the examination such chemical, physical, and other sciences as are indicated by the questions can be obtained from ordinary scientific text-books. Copies of the questions given can be obtained in book-form by applying to the Secretary, Examination Hall, Victoria Embankment, W.C., price 6*d*.

Mrs. B. J. Lafan.—We are glad that our remarks have the approval of our correspondent, and thank her for her letter.

Dr. Percy Pope.—Yes, at an early date.

BRAIN SURGERY AT THE INTERNATIONAL MEDICAL CONGRESS OF BERLIN.

To the Editors of THE LANCET.

SIRS,—In the account of the proceedings in the Section of Neurology and Psychological Medicine at the International Medical Congress at Berlin, which appeared in THE LANCET of Aug. 30th, your correspondent has omitted to mention why I objected, in the discussion upon Prof. Horsley's paper on Brain Surgery, to the proposal of that gentleman to ligature the common carotid in cases of cerebral hæmorrhage which are seen soon after the onset. I stated, in opposition to Mr. Horsley's remark, that there were no means at our disposal for arresting such hæmorrhages, that I had for a number of years past found the hypodermic injection of ergotinine, and even more so the injection of a full dose of the liquid extract of ergot, into the rectum highly effective in stopping cerebral hæmorrhage, as shown by the sudden cessation of successive convulsive seizures which had accompanied such attacks, by the rapid clearing away of the coma, and by a better recovery of the patients than could otherwise have been expected, seeing the severity of the symptoms which had been present. This treatment of cerebral hæmorrhage was recommended by me as far back as 1876, in a lecture on the Prognosis of Cerebral Hæmorrhage, which appeared in the *British Medical Journal* of July 22nd of that year. Your correspondent further makes me say that I would not "in cases of syphilitic brain tumour readily recommend surgical interference, as less (?) antisyphilitic treatment often gave very good results." What I said was that antisyphilitic treatment by means of hypodermic injections of mercury often proved successful in such cases, and should be used in preference to treatment by iodide of potassium.

I am, Sirs, yours faithfully,

Harley-street, September, 1890. JULIUS ALTHAUS, M.D.

Mr. G. H. Brand.—There is no discourtesy in doing so. The etiquette varies in different places.

Ignotus.—The question is a purely legal one, and should be referred to a solicitor.

Jurist.—The matter is referred to on another page of our present number.

Dr. Fletcher Beach is thanked.

BANDAGES IN THE TREATMENT OF GRAVES' DISEASE.

To the Editors of THE LANCET.

SIRS,—In connexion with the admirable lectures on Graves' Disease, delivered by Dr. Mackenzie, I should like to mention that I have found in these cases the greatest benefit from the application of Dr. Martin's solid rubber bandage round the neck during the day, and to be left off at bed-time. When there is much pulsation in the thyroidal tumour, I have found the application of liq. empl. belladonnæ in collodion (Brady and Martin) give relief. It is certainly surprising how well the elastic bandage is borne, and what comfort it gives the patient. I only mention this as an addition to the medical treatment which each case requires. I am, Sirs, yours truly,

Ulverston, Sept. 22nd, 1890. F. C. MACNALTY, M.A., M.D.

Mr. R. J. Kennedy.—We think our correspondent might well carry out the suggestion contained in the latter part of his letter.

Dr. F. Little.—An article appeared in our issue of Sept. 13th containing the information supplied by our correspondent.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Dunlop, Glasgow; Dr. Fawcett, Baltimore; Dr. Dudgeon, London; Sir W. Turner, Edinburgh; Mr. A. Duke, Dublin; Prof. Currie, Felling-on Tyne; Dr. Campbell Pope, London; Mr. Treves, London; Mr. E. A Piggott, Clare; Dr. W. Duncan, London; Dr. Macnaughton Jones, London; Mr. Moullin, London; Dr. Lowson, Hull; Mr. Brudenell Carter, London; Dr. F. P. Atkinson, Surbiton; Mr. Pike, Providence City, U.S.; Dr. Fenton, London; Dr. Whipham; Mr. Hyslop, Church Stretton; Dr. Hagyard, Hull; Mr. J. Poland; Messrs. Merryweather and Sons, London; Mr. F. Irwin, Boston, Mass.; Dr. Macy, Ward's Island; Mr. Allsop, Saltaire; Mr. Evans, London; Messrs. Hopkinson and Co., Notts; Mr. J. H. Jones, Treherbert; Mr. Holdsworth, West Kirby; Mr. Tallack, London; Dr. J. Broom, Clifton; Mr. L. James, Morningside; Dr. Rentoul, Liverpool; Mr. A. Lucas, London; Mr. A. Winterbottom, London; Mr. W. G. Nash, Plymouth; Mr. F. Edge, Manchester; Rev. Mr. Lee, co. Limerick; Mr. J. Mitchell, Leith; Dr. H. Watson, Newbery; Dr. C. W. Jones, Bowdon; Dr. Handfield Jones, London; Mr. C. A. P. Osburne, Hythe; Messrs. Drayton and Sons, Exeter; Signor L. Aycart, Madrid; Messrs. Reade Bros. and Co., Wolverhampton; Mr. W. H. Haw, Rustenburg; Messrs. Keith and Co., Edinburgh; Dr. G. C. Stephens, London; Messrs. Lee and Nightingale, Liverpool; Dr. K. M. McLeod, Calcutta; Messrs. Lea Bros, Philadelphia; Mr. A. Doran, London; Dr. Remondino, San Diego; Mr. A. Leahy, London; Mr. Kanthack; Messrs. Eason and Son, Dublin; Mr. F. C. Dutt, Calcutta; Messrs. Hockin, Wilson, and Co., London; Mr. C. Wicks; Dr. Mugliston, Singapore; Dr. Norman Kerr, London; Dr. McGuire, Richmond, Pa.; Dr. Gibbon; Dr. Percy Pope, Broadmoor; Dr. Moss, Penarth; Messrs. Willows, Burgess, and Co., London; Mr. Renouf, Montreal; Mr. C. P. Jones; Mr. Evan Jones, London; Dr. Mac Nalty, Ulverston; Mr. Lawrence-Hamilton, London; Dr. H. G. Lys, Bournemouth; Mr. Gurner, Pall Mall; Dr. D. Mackintosh, London; Dr. Shardon, Evershot; Mr. Williams, Coleford; Mr. Lahmann, London; Mr. Beveridge, Edinburgh; Dr. Cribb, Highbury; Dr. Haviland, Liverpool; Dr. Shephard; Messrs. Brady and Martin, Newcastle-on-Tyne; Dr. Harding, Whittlesea; Dr. More-Madden, Dublin; Mr. Scott, London; Mr. A. Haviland; Mr. Stephen Paget, London; Mr. W. R. H. Stewart, Liverpool; Mr. R. W. Murray, Liverpool; Dr. J. F. Little, London; Mr. E. Milner; Mr. G. Taylor, Liverpool; Mr. C. Birchall, Liverpool; Mr. Peake, London; Dr. L. E. Stevenson, Carlisle; Dr. R. E. Williams, Walthamstow; Dr. Tirard, London; Mr. Barnfield, Nailsworth; Mr. Whittle, Liverpool; Dr. W. McBeath, Swindon; Mr. H. B. Robinson, London; Mr. Burcombe, Lincoln; Mr. Jameson, Hexham; An Enquirer; E., London; M.B.; Doubtful; Melbourne; A. E. K.; Executrix, Cheltenham; Institute of Medical Electricity, London; F.R.C.S.I., London; Liquor Carnis Co., Holborn; Eastern, London; F. K., London; Secretary, Public Hospital, Leeds; Secretary, General Infirmary, Leeds; M.D.; Maltine Co., Bloomsbury; Surrey, London; Secretary, Clinical Hospital for Women, Manchester; M., Rhyl.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Theodore Williams, London; Mr. Barber, Burton-on-Trent; Messrs. Blondeau et Cie, London; Dr. Althaus; Dr. Murrell, London; Messrs. Condy and Mitchell, London; Mr. Hunter, Dumfries, N.B.; Messrs. Yeates and Son, Worcester; Mr. Griffith, Guatemala, C.A.; Messrs. King and Co., Cornhill; Mr. Purland, Woolwich; Mr. Wilson, St. Andrew's, N.B.; Dr. Thornton, Margate; Mr. Baroody, Syria; Dr. Winckworth, Beds; Mr. Davies, Oswestry; Mr. Wright, Sussex; Mr. G. Lawson, London; Mr. Lester, Aylesbury; Mr. Huish, Clapham; Mr. Riches, Paignton; Miss Crowley, Queen's County; Mr. Ross, Ross-shire,

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NEWSPAPERS.—*Yorkshire Post, East Anglian Daily Times, Freeman's Journal, Sheffield Daily Telegraph, Birmingham Gazette, Liverpool Daily Post, Leeds Mercury, Local Government Chronicle, City Press, Yorkshire Herald, Western Mail, Mining Journal, Kilkenny Journal, Manchester Guardian, Kent Herald, South Wales Daily News, Glasgow Herald, Bristol Mercury, Belfast News Letter, Northern Whig, British Weekly, Windsor and Eton Gazette, Hertfordshire Mercury, Architect, Broad Arrow, Dundee Advertiser, Sunday Times, Weekly Free Press and Aberdeen Herald, Chemist and Druggist, Surrey Advertiser, Liverpool Courier, Reading Mercury, Builder, Metropolitan, Windsor and Eton Express, West Middlesex Standard, Law Journal, Rochdale Observer, Daily Chronicle, Blackpool Times, John Bull, West Middlesex Advertiser, Spectator, Saturday Review, Morning Advertiser, Guy's Hospital Gazette, Pharmaceutical Journal, Citizen, Scotsman, Court Circular, Lincoln Mercury, Devizes Gazette, Bootle Times, Midland Evening News, Wisbeach Advertiser, Shropshire Guardian, Observer, Bromley Journal (Bolton), Worcestershire Echo, Scarborough Evening News, Kent County Standard, Army and Navy Gazette, Speaker, West Kent Advertiser, Newcastle Daily Chronicle, Peterborough Advertiser, Galignani's Messenger, Schoolmaster, &c.*, have been received.

Medical Diary for the ensuing Week.

Monday, September 29.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
ST. MARK'S HOSPITAL.—Operations, 2.30 P.M.; Tuesday, 2.30 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

Tuesday, September 30.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic operations, 4 P.M.; Friday, 2 P.M
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

Wednesday, October 1.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, October 2.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.
OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. William Duncan, Mr. Doran, and others. Dr. Herman: Four cases of Pregnancy with Bright's Disease.—Dr. Lewers: On Plugging the Uterus in Severe Cases of Post-partum Hæmorrhage.—Dr. Hurry: Case of Symmetrical Erysipelas followed by Premature Labour, Eclampsia, &c.

Friday, October 3.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
SANITARY INSTITUTE OF GREAT BRITAIN.—8 P.M. Sir Douglas Galton: Ventilation, Warming and Lighting.

Saturday, October 4.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

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